The Builder

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Modular Indecision

UNDUE HASTE is clearly out of place in so important a matter as the adoption on a national scale of a building module, for a mistake at the outset could burden and bedevil the building industry for many years to come. Nevertheless, there comes a time in all things when decisions must be made, and many will consider that this is so in the case of the building module. In this country detailed studies of the matter were commenced as long ago as 1946, and it is a fact that, throughout the world, in every country in Europe, in North and South America, in Russia, India, Australia and Africa architects, engineers, builders and building component manufacturers are adopting modular co-ordination in order to simplify and speed their work. The question arises of how much longer Britain can afford to stay out, especially now that entry into the European Common Market in the not very distant future is increasingly coming to be regarded as inevitable.

With these points in mind, LORD BOSSOM, the President of the Modular Society, dealt with the situation as seen through the eyes of the Society, on the occasion of last week's luncheon preceding the annual general meeting. Encouraged by a telegram from HRH PRINCE PHILIP, which spoke of the 'undoubted and great need to speed up building procedures,' Lord Bossom introduced the Society's campaign to adopt the 4 in. module now. Apart from the support for this size module that has been derived from studies undertaken in this country, the case for the 4 in. module is undoubtedly greatly strengthened by the fact that those countries which have adopted the idea of modular co-ordination use either the 4 in. or 10 centimetre module, which are comparable in size.

Lord Bossom explained that the Modular Society's policy in regard to British Standards is not, as some have averred, to disrupt the building industry by a sudden switch over to modular sizes. Many existing sizes are modular already. Those that are not should remain as long as they are wanted; but British Standards, he thinks, should henceforward add some carefully selected modular sizes in parallel.

It is no secret, and indeed Lord Bossom himself emphasised the point, that the Modular Society is disappointed that it has not yet been possible for BSI to agree upon the issue of the main BS for modular co-ordination. Nevertheless, good progress has been made with subsidiary Standards, one on Tolerance and the other on Terminology in Modular Co-ordination. Furthermore, at a meeting in Paris this month of the International Standards Organisation it is hoped to finalise the international terminology for modular co-ordination and to allow the ISO to circulate its expected recommendation that 'The size of the basic module is 10 cm. in countries using the metric system of measure and 4 in. in countries using the inch system of measure.'

Whether the 4 in. module is right or wrong for the British building industry, if it is in fact, as expected, adopted at the ISO meeting it will undoubtedly have a greater claim for consideration in this country as a result of that decision. Moreover, it will show more clearly than ever that until some national agreement is reached Britain must be increasingly denied opportunities of export to some of her richest markets and the threat of over-standardisation at home must grow. A decision on a British module cannot much longer be delayed.

Notes of the Week

Planning the Building Programme ; Quantity Surveyors at Dinner ; Architects and Doctors ; The DIA Year Book ; Architects' Benevolency ; Oxford Architecture

FEW present at the annual dinner of the Chartered Quantity Surveyors, held in Grosvenor House on November 21 and reported in our last issue, can have been aware that Sir William Holford's somewhat oblique reference to the building industry's need to plan its programme of work arose from a scheme now being worked out by the leading professional and trade associations to inaugurate a planning council to assist the Chancellor of the Exchequer in his proposed National Economic Development Council plans. The aim would be to set up a permanent organisation to establish what annual programme of building, over a period, the industry is capable of carrying out with the labour force and materials supply available.

For the industry to have its activity planned on practical lines from the inside rather than by Treasury theoreticians, would represent (as Mr. Ian Leslie told members of the Junior Liaison Committee at the RIBA on November 23) 'a most imaginative move and one which—given the closest co-operation between the professions, the contractors, the operatives and the materials producers—could usher in a new era for industry at large.' It is a plan in which, it can be assumed, Mr. Selwyn Lloyd, the Chancellor, is taking great interest.

* * *

BY THE TIME that these words appear in print, it can be hoped that initial teething troubles arising from early proposals will have been overcome. There are two viewpoints on the basic constitution of a council such as proposed—one, that economic planning of this nature is something which essentially concerns the executive side of the industry: employers, operatives and materials manufacturers; the other, the professions through which demand is channelled. The answer may well be that this is a matter on which each side provides an essential check on the other, and as such that industry and professions must be united in any planning council that is formed, under a chairman who should be independent. In smoothing the way to achieving these ends, Mr. Cyril Sweett's National Joint Consultative Committee has a big part to play though the restriction of its membership to architects, quantity surveyors and builders (excluding the operatives, the material manufacturers and the specialists) points to the need for the planning council to be a body quite independent of the National Joint Consultative Council.

We shall hope that matters may now progress so favourably that Mr. Lloyd may be enabled to make an early pronouncement that will once again establish the claim of the building industry—professions and trades alike—to progressive thinking.

THE GREAT ROOM AT GROSVENOR HOUSE, *claimed to be the largest hotel ballroom in Europe, as it now appears after redecoration to the design of John and Sylvia Reid, AA.RIBA. The decorative scheme includes an acanthus-leaf decorated white ceiling, a magnificent acanthus-leaf patterned carpet in four tones of red, black marble columns and eight 9ft. high crystal chandeliers. Only five weeks were available for carrying out the work. The specially designed chandeliers were made in the village of Gross-Umstadt near Frankfurt, Germany. The quantity surveyors were Davis, Belfield & Everest and the general contractors, Taylor Woodrow Construction Ltd.*

Quantity Surveyors at Dinner

THE QUANTITY SURVEYORS' DINNER, referred to above, was a huge success. Well over a thousand members and guests (in a ratio of about two to three) were delighted to see that Grosvenor House has at last done something about the redecoration of the ballroom in which the dinner was held, and that the dinner committee had been thereby encouraged to dispense with the long top table in favour of a smaller high table with circular tables for other special guests in front. This made for a greater intimacy which was reflected in the speeches, all of which were of a very high order. In proposing 'The Guests,' Mr. Bill James has never been in better form, and Sir William Holford (who seems constitutionally incapable of making a bad speech) and the Bishop of Coventry responded magnificently. Mr. J. G. Osborne (chairman of the QS Committee) who admirably occupied the chair, can be grateful to his dinner committee as to the support given him by the quantity surveyor members of the RICS.

Architects and Doctors

'ARCHITECTS, asked to arrange the following in order of preference—publican, actress, business-man, manufacturer, doctor or don—are likely to place the doctor at the bottom of the list. Some of the reasons seem clear. . . . Whereas the achitect thinks from the general to the particular, the doctor usually thinks from the particular to the general. We [the doctors] are trained to look at things that have gone wrong and decide how to put them right; and thus, when it comes to planning a building, we are sometimes guilty of asking the architect to draw plans and offering to "correct" these when he returns them. This is not the way to produce good buildings.' This extract from a leading article in 'The Lancet' of October 28 introduced a series of monographs under the title 'Words into Wards,' in which architects and doctors have given their views on the best way in which, as a team, they can collaborate in the design of hospitals.

In the first of the series Dr. T. Sommerville and Alan Wightman, ARIBA, wrote on 'The Right Hospital.' Subsequent contributions were from Ian M. Leslie ('The Planning Process,' in which, stressing that no hospital could be better than the brief given the architect, he pressed for the inclusion of the architect, at the earliest stage, in a building committee composed as largely as possible of members who would 'stay put'); Dr. J. A. Oddie, who wrote on the importance of the architect's brief; and S. E. T. Cusdin, who tackled the knotty subject of the

effect of alterations on the progress of the job. Articles yet to come are by W. A. Allen, who will write (December 2) on the revolutionary possibilities of modern architecture; and by Dr. F. D. Beddard (December 9) in which the series will be summed up.

By reason of the great programme of hospital planning and construction that is planned for the next decade, our contemporary is to be congratulated on initiating a series which cannot fail to bring the doctor and architect together as sworn allies in the process by which efficient hospital buildings come into being.

Gordon Cullen contributes a facetious feature on 'Gracious Living.' The year book is lavishly illustrated. In addition there is a list of the names and addresses of members and other features of institutional interest. Congratulations to the editor, Robin Mudie, and others concerned on a lively, useful and stylish production. (13 Suffolk-street, Haymarket, London, SW1, price 2s. 6d.)

A PERSPECTIVE *of the new 250-bedroom Albany Hotel, Birmingham, where the 'topping out' ceremony was recently performed by Sir Samuel Salmon, chairman of Strand Hotel Ltd., the company that will operate the hotel, and Mr. W. Kirby Laing, chairman of John Laing Construction Ltd., the contractors. The architects are Messrs. James A. Roberts and Partners and the consultant architect for the Strand Hotel Ltd. is Mr. C. Gordon Wills, FRIBA. Consulting engineers are Messrs. Charles Weiss and Partners. The site has been developed by Ringway Properties (North) Ltd., an associated company of the Property and General Investment Co. Ltd.*

The DIA Year Book

AMONG THE BEST of the year books to reach us recently is that of the Design and Industries Association. This includes numerous special articles on subjects of varied interest. Gordon Russell writes helpfully of the qualities needed for success in industrial design; Nikolaus Pevsner traces the influence of the Festival of 1951 on subsequent architectural and general design; Philip Scholberg describes the design and accommodation of the liners 'Oriana' and 'Canberra'; Oliver Amrole records some entertaining (and we hope apocryphal) experiences in the world of commercial art; Derek Birdsall shows how we are lagging behind in graphic design; Reyner Banham scourges the aesthetic and other deficiencies of TV advertising; Alan H. Adams writes knowledgably and reminiscently of the making of fireclay sanitary ware; John and Sylvia Reid suggest how stone can best be used in contemporary architecture; and

Architects' Benevolency

THE LUNCHEON given biennially at the Building Exhibition for the Architects' Benevolent Society took place this year on November 22 when the Society, and Mrs. Montgomery as host, were honoured by the presence of two of Her Majesty's Ministers—Lord Hailsham and Lord John Hope. The attractive habit of getting the speeches over before lunch was continued, and Sir William Holford, as President both of the ABS and the Building Exhibition, thanked Mrs. Montgomery for the generous gifts in cash and kind she had made to the Society.

The Society's affairs are going well, it seems. All tickets for the dance on December 13 have been sold, and it will be surprising if Mr. Cecil Epril's committee does not hand over something of the order of £5,000 to the ABS Homes' fund. The committee, it seems, are worried at the effect of National Assistance on their pensioners, for even the smallest grant by the Society can result in the Assistance Board cutting its contribution. Since national assistance is based on the barest minimum necessary to keep a home in being, this barrier to benevolency seems very wrong. Cannot the Minister of Pensions look into this?

Oxford Architecture

OXFORD UNIVERSITY DESIGN SOCIETY, an enterprising undergraduate body, has published 'New Oxford' (price 2s. 6d.), described as a guide to the modern city and a commentary on post-war building in Oxford. The booklet consists mainly of descriptions of individual buildings with brief and often pungent critical notes. There is a short and rather inadequate section on general problems of planning and redevelopment in Oxford, which perhaps would have been better not attempted.

The descriptions of buildings vary considerably in length and detail, and lack consistency of treatment. A more uniform, and possibly tabulated, system of description would have added to the value of the booklet considered simply as a guide. But the authors were no doubt eager to get to their critical notes, which are vigorous, on the whole just, and follow what may now be regarded as the conventionally progressive line. Post-war buildings in the historic styles are mercilessly condemned; modern architecture enthusiastically welcomed. This is admirable enough, although the genuine architectural qualities of some traditional work have not been perceived (e.g., Maufe's Dolphin building for St. John's, which is dismissed as 'lumpish'). Now that the battle for modern architecture has been so decisively won, merit may now be admitted in traditional building without letting the side down.

In their assessments of contemporary buildings the authors show an understandable tendency to praise what appears to be immediately startling and arresting at the expense of more durable architectural virtues. Some of the tricky new buildings in the Science Area and the Keble Triangle, highly admired in this booklet, are already becoming rather tiresome. Modern architecture has its clichés, no less than the historic styles, and with much less justification. The text and the poorly drawn maps contain several unscholarly errors and misprints. The cover and typography are of a standard unworthy of a Design Society.

Civil Engineering Research

DR. M. F. KAPLAN, from Pretoria, South Africa, has been appointed Research Director of the Civil Engineering Research Council in London.

Poet's Corner

A CONSIDERABLE increase in the use of abbreviations is noted.

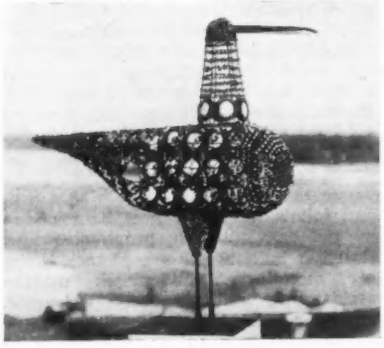
The dear old building industry
Was ever fond of brevity—
E.g. PC and DPC,
HB, FS, CI, RC;
And now there's CLASP
To put beside NJCC.
But best of all for you and me,
The RIBA, NFBTE
And RICS all agree
That technical literature should be
In SfB stroke UDC
P.S. SOS, SVP!

ANON.

Three London Exhibitions

'Finlandia'; Crafts Centre; 'Heal Fabrics 1962'

THE EXHIBITION on view at the Victoria and Albert Museum, Kensington, London, SW7, until January 7 is the apotheosis of each of two approaches to a vexed question. This is implicit in the organisers' need to translate their title as the Finnish Society of Crafts and Design—two words being necessary where one serves in the original, but the point calls for amplification.



Metal and ceramic bird by Birger Kaipiainen

The distinction in this country between hand and machine production (example—the Crafts and the Design Centres respectively) is not so sharply drawn in Finland and the Scandinavian countries, or in Italy, to the advantage of both—as shown in their public's attitude towards them. The reverse, with consequent disadvantages, will surely result here, unless the deterioration of qualitative standards in the machine product, and the cumulative time-lag in the design standards of the hand-made, can be halted. This is overdue for sorting out by the responsible bodies, and is complicated by chaotic commercial values, probably reflecting our lunatic social ones.

A Comprehensive Selection

The V & A exhibition spotlights the unreality of the distinction: it is designedly comprehensive, extending beyond the limitations of what can be found in our shops from Finland, still reflecting that initial, and near-disastrous, decision to introduce the Aalto furniture of the late 20s through one of our most expensive and entrenched West End channels, thus making utility appear merely 'smart.' The present selection covers lighting, glass, wood, ceramic, jewellery, textiles, plastics, metal and furniture. Standards of workmanship and design are impeccable; the inference being that it matters less how it is made than of what and by whom, to be fit for a purpose. There is also, however, a pervasive element of fantasy, and even irrationality, which distinguishes Finnish design from that of other countries—notably in Aalto's more recent development and in the work of Sarpaneva who, as designer also of the 'tented' setting, emerges as the personality of the occasion.

Excellent though it is, the exhibition may be found vulnerable on two counts, only one of which is really valid. On the analogy that exhibition 'rooms' tend to be dismissed here as 'not looking lived-in' (meaning, of course, unlike those of servantless and untidy people) these beautiful artefacts may equally thoughtlessly be characterised as 'unused-looking.' Why on earth shouldn't they be? Their utility in most cases may be taken on trust or trial.

The second is admittedly more subjective. As a display for working journalists and designers, and even perhaps for casual but interested visitors, the exhibition is frankly under-lit. The dramatic exploitation of the atavistic powers of darkness in the entrance 'cave' to enhance the rich chromatics of familiar 'rya' rugs is justifiable. But in the main room, the low-level, mathematical regimentation of objects under narrow-angle spotlighting, captioned in small white type on black slips, in unholy alliance with a handbook whose black text is on donkey-brown paper, does put rather a strain on eyesight, muscles and note-taking. Hence my rather generalised note, which does not lessen admiration for the Finns at a time of writing when, for non-aesthetic reasons, they are much in our minds—nor for the decorative Finnish girls and helpfully multilingual officials who swam into intermittent orbit through the inspissated gloom.

Christmas Exhibitions

PEOPLE may care to be reminded of two hardy annuals—the Crafts Centre's Christmas Exhibition (17 Hay Hill, until January 13) and 'Heal Fabrics 1962.' The point about the Craft Centre's exhibition is that it is a 'selling' exhibition—i.e., you don't have to wait until it's over for delivery. It is, therefore, as good a hunting ground for Christmas presents as any, and better than many. It covers the Crafts Centre's usual range of hand- and well-made things in the fields of woodwork, ceramics, textiles, metalwork, jewellery, etc., etc., and things well worth giving, and receiving, are often relatively inexpensive. But go early, as obviously with the consequent turnover of stock bought off the peg, first come is first served, and, if discriminating, best served.

I don't know whether anybody gives lengths of furnishing fabrics as presents, but I don't see why not, particularly now that the young sometimes seem to be wrapped in the living-room curtains again, nostalgically recalling the romantic attachments of one's Slade-AA (or perhaps RA School) days, some of which even lasted. I hope, however, that I am not misleading anybody in thinking that this separate department of the Heal organisation offers 'shopping days until Christmas' with its 1962 fabrics, as they are not officially launched until New Year's Day: no doubt, however, they can be bespoken. They are an interesting range, from the near-Ascot floral to the almost finnicky austere, and include at least one ingenious idea for a 'repeat' broken by contrasting but congruous plain panels.

BASIL MARRIOTT.

RIBA Professional Examinations

Successful Candidates

THE EXAMINATION in professional practice and practical experience was held in London and Edinburgh on November 16 and 17. Of the 151 examined, 138 passed and 13 were relegated. The successful candidates were:

A. P. Ames, T. H. Anson, E. T. Anstead, M. L. Archer, D. C. Baylis, D. W. Belsom, T. B. Berry, Cyril Bird, P. J. Bird, J. F. Bonny, J. E. Bracey, A. G. Bragg, K. G. Bridger, I. A. Burney.

T. S. Daly, John Davies, P. J. Deakins, J. K. Chowdhury, A. W. Christie, Fook Chee Chung, David Clark, D. F. Clark, H. R. M. Cloete, K. G. Claxton, H. S. Collen, R. J. Cook, S. J. Coope, I. L. Cooper, B. L. Courtenay, M. G. Curran.

T. S. Daly, John Davies, P. J. Deakin, J. K. Dible, R. W. Y. Dobie, E. C. Dowty, P. A. du Plessis-Naudé, H. W. Durrant-Whyte, B. F. Dyer, H. P. Earp, A. J. Ede, G. W. Findlay, C. K. Fletcher, J. P. Furlong.

Richard Gardner, J. B. Garrett, John Gibbon, J. M. C. Gladstone, D. I. Goad, A. J. Goodman, Malcolme Gordon, John Gott, R. H. Graham, G. A. Gray, G. H. Grayston, Roy Greenhalgh, P. A. R. Greenup, A. J. Grimshaw, C. J. Hannay, J. B. Hardcastle, Robert Harris, R. W. Hartland, F. M. Harvey, T. G. Harvie, Ian Haywood, A. J. Hermsen, M. R. T. Holmwood, B. C. Honikman, D. N. Horn, R. A. Huke.

Leonard Jackson, Miss V. J. W. Jackson, R. C. J. Jones, R. A. Jones, W. D. Kavanagh, D. S. Lawes, S. S. Levene, G. R. C. Lewis, R. M. Loney, L. J. Loshak, John Lovatt, John McFarlane, J. W. Mackenzie, R. M. McTaggart, R. D. Mallett, B. R. Manley, H. I. Meyer, C. A. Morrell, T. G. Morris, L. D. Morrison, C. J. Munday, A. G. Murcutt, J. P. Murtagh.

J. W. Nekanda-Trepka, William Nisbet, J. E. Pearson, M. W. Pepper, A. H. Pierson, K. F. Pokorny, J. E. Porter, A. J. Pratt, D. R. Preston, Maxwell Quarterman, W. L. Rainford, D. W. E. Redstall, H. F. Richardson, J. M. Richardson, J. R. Roberts, K. M. P. Roberts, M. F. Roberts, M. C. Rogers, G. F. Ruggles, D. J. Ryan, P. H. R. Sargeant, Keith Savery, M. W. C. Savill, D. S. Scarth, Fred Seddon, Peter Sheard, Colin Silvester, J. G. Simpson, R. M. A. Smith, L. S. Sobieniewski, Jan Stancel, John Stirk, R. C. Stride.

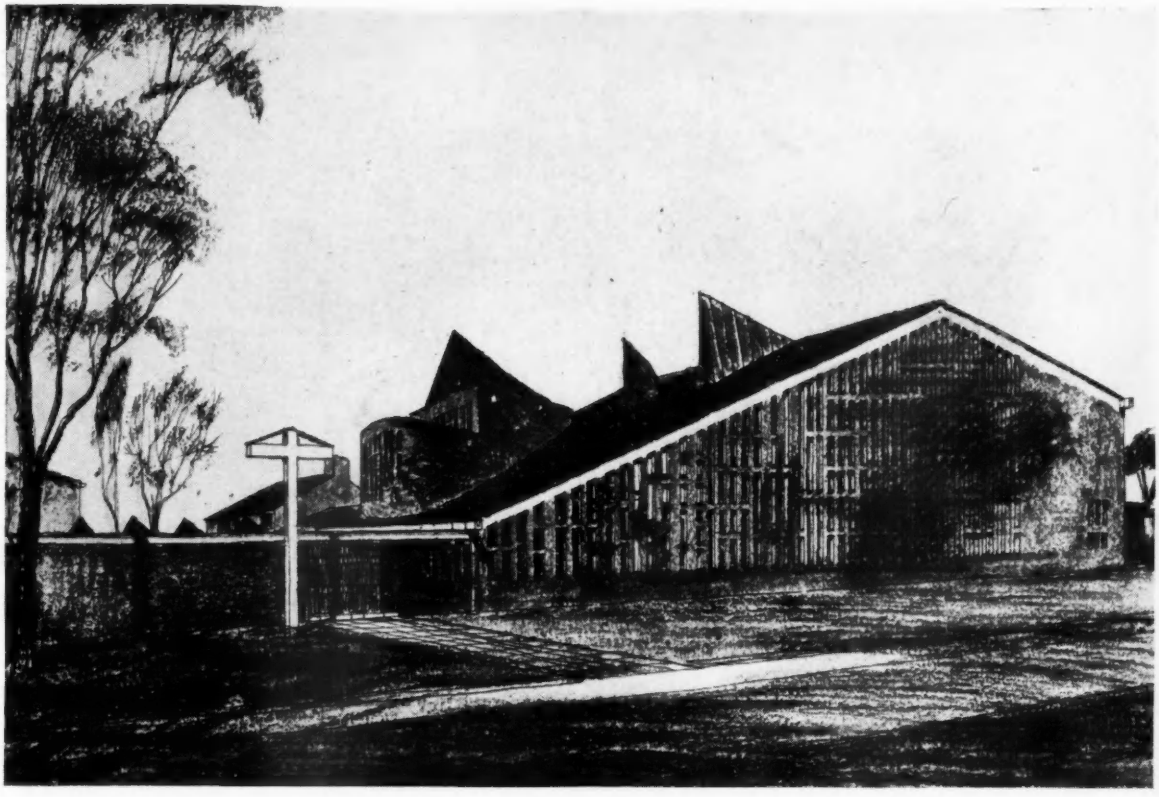
Mrs. C. M. Taylor, D. C. H. Townsend, R. W. Walker, Gordon Walton, G. W. N. Warrington, J. M. Watson, Alec Wells, R. S. Whitting, C. P. Wilkins, Czeslaw Wojtulewicz, D. M. Wood, B. R. Woodward, David Wrench.

Aerial Survey of Kent

AN AERIAL SURVEY of the county of Kent has recently been completed for the planning committee of the county council. It was commissioned to assist in reviewing the Kent development plan, which is now under way.

Proposed Memorial Church, Wythenshawe

GEORGE G. PACE, MA, FSA, FRIBA, architect



exterior perspective

THIS CHURCH is to be a memorial to Archbishop William Temple, who, at one time, was Bishop of Manchester. It is sited in the Civic Centre, and will be the Parish Church of Wythenshawe. The Church itself forms part of a group which will include the Vicarage and Church Hall. It is proposed to build the Vicarage and the Church as the first stage and the Church Hall as a second stage.

During the past two years the architect, the Vicar and the Parochial Church Council have collaborated in working out from first principles the liturgical plan of the Church.

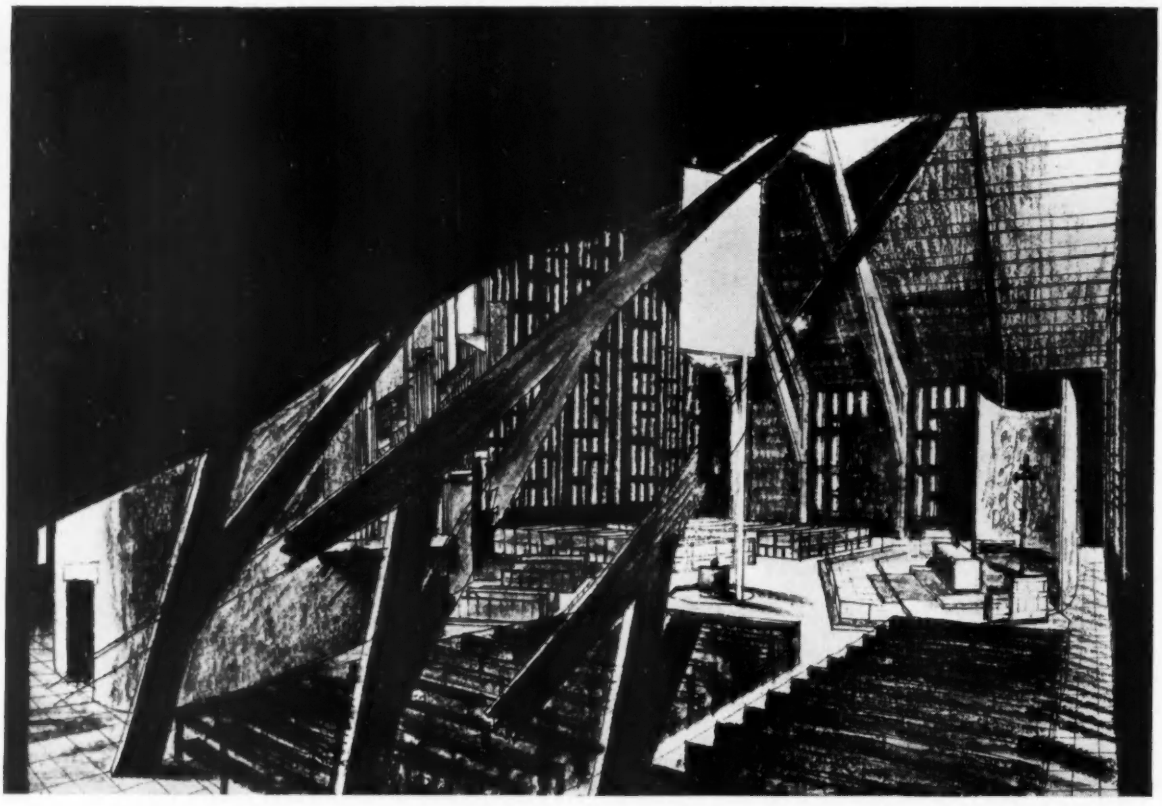
The plan of the church is rectangular. Seating is arranged in two separate blocks, one providing seats for 300 and the other 200 persons. Both blocks of seats face towards the liturgical area. Diagonally across the rectangle is placed the liturgical area which contains the altar, lectern, pulpit and priests' stalls. The Bishop's chair is placed in a shallow apse east of the free standing altar. The liturgical area is ringed by a continuous altar rail, providing space for 75 to Communicate at one time.

The font is placed on the diagonal axis and is in the midst of the seating area. The font itself stands in a shallow octagonal area sunk in the floor and is surmounted by a tall cover carried on three columns which forms a visual enclosure of the baptistery and is also a structural support to the main roof.

The choir are also centred on the diagonal axis and are backed by the organ and the wall of the enclosed chapel.

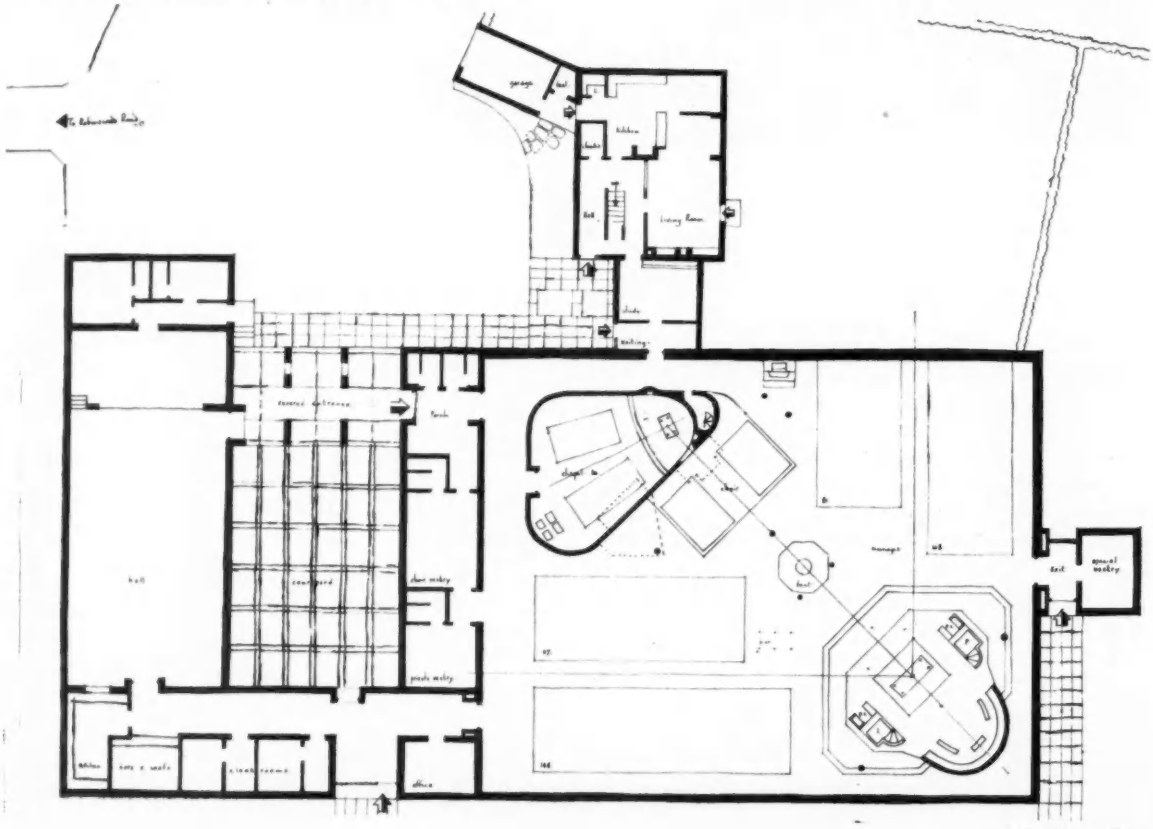
The chapel is completely enclosed and occupies the space between the seating areas. Being enclosed, the chapel can be kept continuously heated during the winter months.

The internal and external architectural treatment of the church arise naturally from the liturgical plan.



interior towards font and altar

Memorial Church, Wythenshawe



Scale: 1 in. = 40 ft.

Letters to the Editor

Manchester Under Fire ; Glazing in Post-war Schools ; Health Service Architects' Salaries

SIR,—As a partner in a firm with an annual seven-figure certification relating to a mixed practice, I feel impelled to write to correct some extraordinary fallacies in the figures relating to the financial administration of the Manchester City Architect's Office given in 'The Builder' of November 17. First, the minimum RIBA Scale Fee may be 6 per cent, but a large office certainly does not collect that on much of its work because of two major authorised deductions:

(a) the ½th contribution towards consultants' fees which always applies on large contracts;

(b) the reduction due to repetitive work which may be up to ½th and which would apply to a great proportion of the Manchester City Architect's work which must be housing. (I ignore the ½th deduction made by Regional Hospital Boards which would not apply to the Manchester City Architect.)

These deductions cannot be compensated for by the increased fees on alteration works which form a very minor part of a large practice's work. Taking these factors into account we find that our average rate of fees is rather below 5 per cent, and this, of course, is working strictly in accordance with the RIBA Conditions of Engagement and Scale of Professional Charges.

Second, while it is reasonable to add 100 per cent to basic costs for overheads and profit on small jobs which have to be costed on a time basis, it does not follow that on large jobs the reverse argument can apply and only one-half of the fee be required to cover the cost of architectural services. Our basic costs are certainly much higher, and I would say that if any firm is doing architectural work at the cost of one-half the fees it cannot be doing it properly.

Many other questions arise (especially continuity of work), some of which you mention in your editorial and no doubt some other correspondents will deal with them. I should, however, like to conclude by protesting at the implication in the report that the cost of private architects' fees is thrown away. One is constantly reading of local councillors who announce with pride that they have saved outside architects' fees by increasing their architectural departments, as though the latter cost nothing. It is an unfortunate feature of professional life at present that these councillors receive support from some salaried architects, who, incidentally, are members of the RIBA, and who are constantly trying to undermine their colleagues in private practice.

The lengths to which they sometimes go was shown a few years ago when one of them, I think in a letter to 'The Builder,' said he had not included costs of accommodation in his figures because the Council had to have a Town Hall, anyway! Soon afterwards we see an unnecessarily palatial building erected in Coventry to house the City Architect's Department, and it is evident that a new building will be required in Manchester in due course. One cannot help feeling that it will be costed on a basis as equally unrealistic as that employed in the Manchester Report.

W. A. GUTTRIDGE [DIPL.ARCH, FRIBA],
Adams, Holden & Pearson,
38 Gordon-square, WC1.

* * *

SIR,—The report on the re-organisation of Manchester City Architect's Department, by Mr. S. G. Roberts ('The Builder' of November 17) is perhaps welcome to some degree, and is a blow struck in the cause of progress for part of a profession which is without doubt badly maligned on many occasions, underpaid on most occasions and deserving of serious consideration with proper payment for the knowledge or service imparted to the community as a whole.

The mistake my professional colleague makes, however, is to replan salary claims at the expense of the remainder of his profession. This surely raises the following points:

1. Is this in accordance with the professional Code of Conduct (Clause 10-12)?

2. How can an authority compare or relate fees earned in private practice with salaries of local government officials, unless local authorities are prepared to enter the business world to the full and accept the risks of it?

3. Mr. Roberts does not suggest who provides the capital to keep local officials in business with the same salary return as private practitioners. Would this not be considered salary in kind and liable for serious consideration by the Inland Revenue and the public auditor?

4. Who pays overdraft interest?

5. A Utopia of a practice no doubt; to be in a position to create and influence one's own commissions in conception, execution and cost, and obtain a salary the equivalent of a full-scale fee (plus pension rights) without providing the capital necessary to run a practice is indeed something which we in private practice would accept, with both hands, at a lesser fee than the recognised and official scale set down by the RIBA.

6. If Mr. Roberts is right, then surely the Committee and Council of the RIBA responsible for the scale of fees must be wrong.

I suggest Manchester thinks again before implementing the suggestions of Mr. Roberts in relation to salaries.

JOHN SMITH [FRIBA],
1 Church-street, Heckmondwike.

Glazing in Post-War Schools

SIR,—Regarding the recent correspondence in your columns on the above subject, the following cutting from a recent local newspaper of one of the new towns may be of interest:

'One of the glories of the New Town is undoubtedly its schools. Nearly all are brand new buildings, light and airy and well designed. They are the envy of representatives of other local authorities.

'However, there is one grouse which those who teach in the schools have against these fine buildings. I refer to the large expanse of glass which has been used in their construction.

'A teacher in a primary school told me that when the sun is shining his classroom is intolerably hot. Five children had been sick in a week, and there were continual complaints of feeling faint.

'Some schools are supplied with blinds, but apparently not all of them. Perhaps the education authorities ought to consider fitting blinds to the windows of all classrooms facing the midday sun.'

H. S. HOWGRAVE-GRAHAM [ARIBA],
105 Three-Bridges-road,
Crawley, Sussex.

Health Service Architects' Salaries

SIR,—In reply to Mr. Smith's letter in your issue of November 10, I would be delighted to take up his challenge for a discussion of our mutual problems and differences before an audience of Health Service Architects, and am investigating what can be arranged.

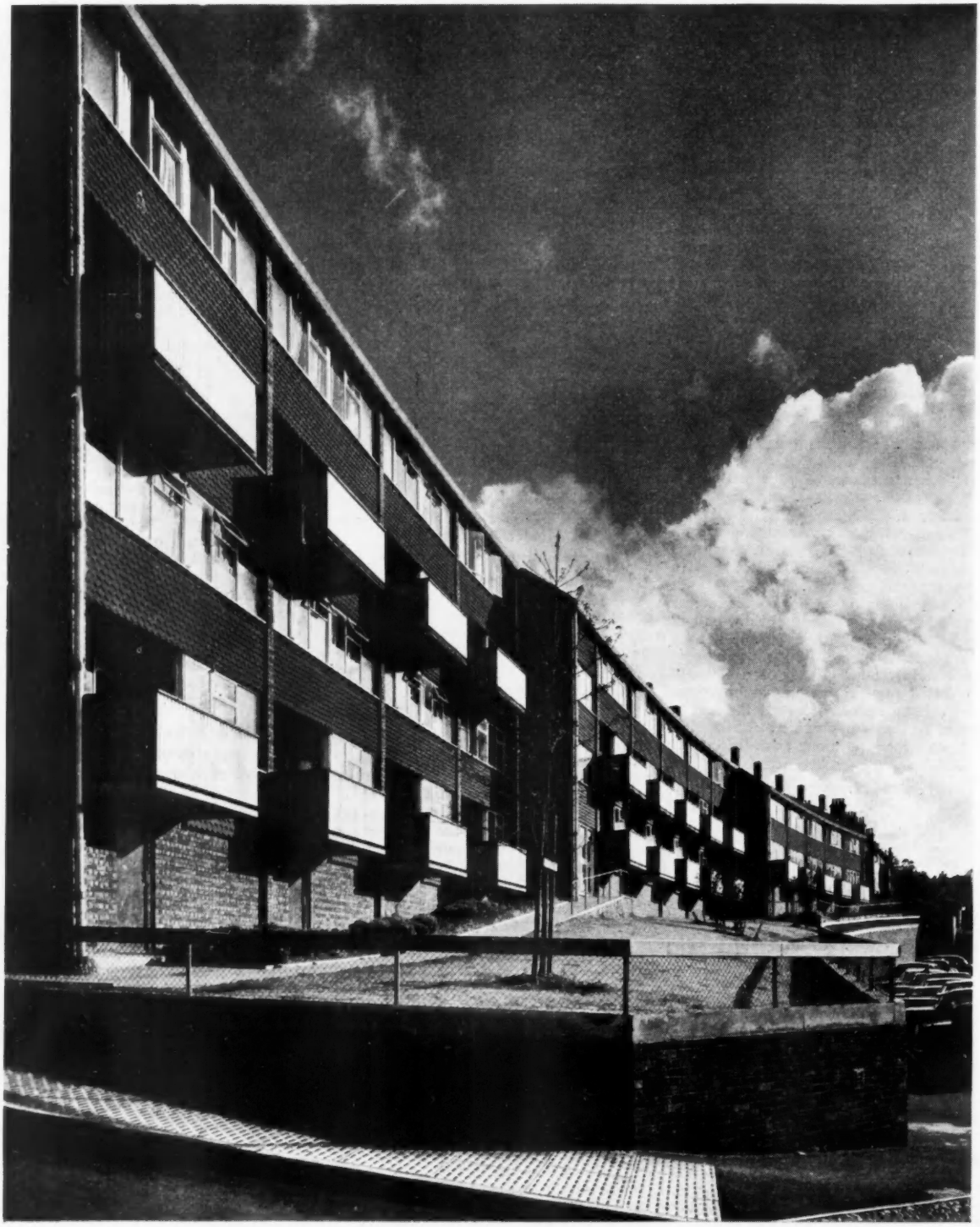
To answer Mr. Smith's other point, we agree that negotiating is a specialist job and that NALGO has the specialist officers to do much of this work, but when it comes to knowledge of the problems concerning the engineering, quantity surveying or architectural professions the professions must work together with NALGO through their respective Associations (i.e., ALGES and AOA). Why Committee 'F' includes other voices (such as, say, Hospital Supervisory Staffs) we do not know, but surely the voices of the three professions for whom the Committee exists are a 'must' at the Committee table.

H. G. EISNER [BA(HONS), ARIBA],
Public Relations Officer,
Association of Official Architects,
66 Portland-place, W.1.

'Sorry, mate!—that brick I dropped on your foot was meant for Mr. K!'

Housing Scheme, Dorking

HOWARD V. LOBB & PARTNERS, F/FRIBA, architects
JOHN DE BREMAEKER & PARTNERS, consulting engineers
A. W. WEST, FRICS, quantity surveyor
G. P. YOUNGMAN, MA, FILA, AMTPI, landscape architect
CROUDACE LTD., general contractors



THE SITE of this clearance area scheme adjoins the Cotmandene Common and is 290 ft. long with an average width of 80 ft. and a cross fall of some 16 ft. In addition to the physical difficulties presented by the site, there was the problem of fitting the new development into an existing townscape, replacing picturesque cottages which had to be demolished.

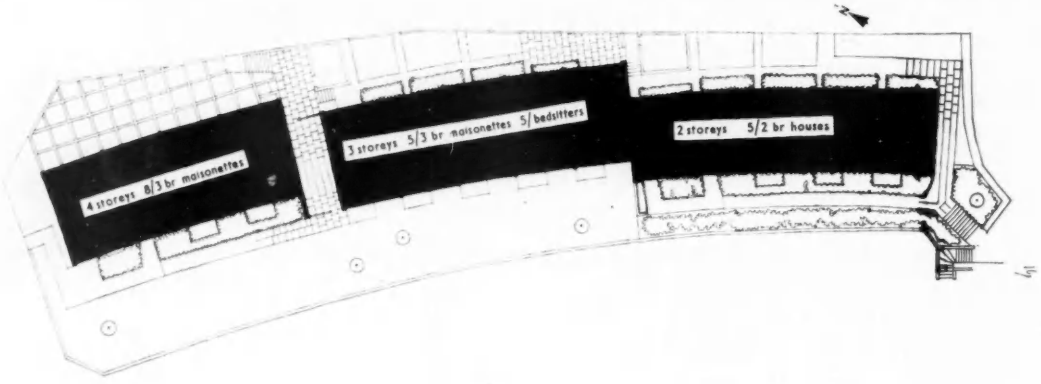
The housing is raised on a podium, containing tenants' stores, to overcome the cross fall and the heights of the continuous blocks were varied so that the 2-storey end would marry in with existing houses. A total of 13 3-bedroom maisonettes, 5 1-bedroom flats and 5 2-bedroom houses were provided. This gives a density of 96 habitable rooms per acre, justified by the presence of the adjoining common and the scarcity of land in Dorking, which is a green belt town.

Construction is brick cross-walls with tiled roofs, tile-hung walls and western red cedar fronts to balconies, in order to fit in with the Dorking vernacular. Particular attention has been paid to landscaping and the small but important details of paving, steps and railings. A coat of arms in stone,

2-BEDROOM HOUSE

Scale: 1 in. = 12 ft.

facing page, 4-storey maisonette block from north-west; below, general view from south



SITE PLAN
Scale: 1 in. = 48 ft.

Housing at Dorking

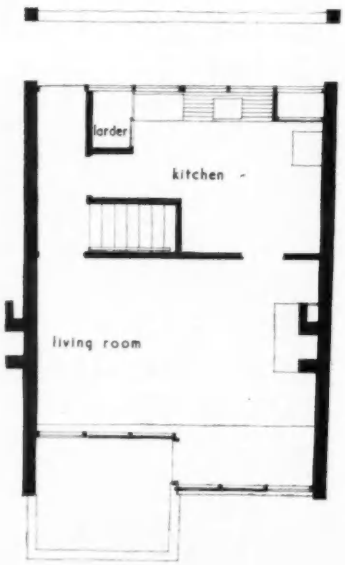
originally part of a cottage on the site, has been incorporated in the site works and painted in heraldic colours.

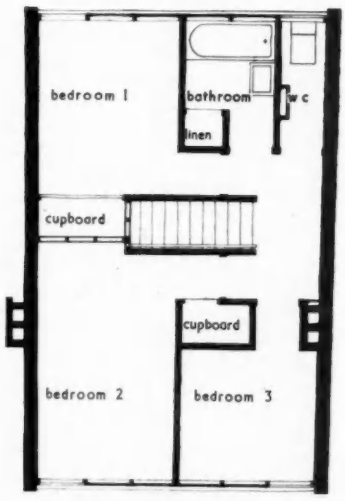
The final cost of the scheme, including site works, was £59,840.

SUB-CONTRACTORS & SUPPLIERS: *Electrical installation:* Barlow & Young Ltd.; *television aerial installation:* Imhofs; *colouring of heraldic plaque:* Lettering Centre; *planting:* Knowles & Weller Ltd.; *floor, roof, & vertical hung tiling:* Marley Tile Co. Ltd.; *mastic asphalt to balconies:* Permanite Ltd.; *gas services:* South Eastern Gas Board; *timber window units:* Archer Joinery Co. Ltd.; *Omnia floor slabs:* Atlas Stone Co. Ltd.; *balustrades:* East Sussex Engineering Co. Ltd.; *single stack plumbing:* B. Finch & Co. Ltd.; *sanitary ware:* General Light Castings Ltd.; *r.c. beams & rainwater gutters:* Marley Concrete Ltd.; *steel joists and purlins:* Metal Sections Ltd.; *steel reinforcement:* Rom River Reinforcement Service; *bricks:* The Sussex & Dorking United Brick Co. Ltd.; *ironmongery:* Yannedis & Co. Ltd.

the group from north-east

1-BEDROOM FLAT, Scale: 1 in. = 10 ft.





3-BEDROOM MAISONETTES
Scale: 1 in. = 10 ft.

Architectural Design for the Disabled

Conference at Olympia

FROM OUR SPECIAL CORRESPONDENT

THE CHAIRMAN, SIR WALTER PUCKEY, in opening the one-day conference on 'Architectural Design for the Disabled' at the Building Exhibition on November 23, was right in suggesting that the day's programme might be referred to as 'operation stopwatch.' Nine papers, with time for discussion after each, a chairman's summing-up, a coffee break and a buffet lunch, and all to be fitted into a tight schedule between 9.30 a.m. and 5 p.m. seemed challenge enough by any timekeeping standards: but by the time we had broken off for coffee at 11.15 a.m. sharp and returned at 11.29½ a.m. prompt, to be asked by the Chairman were we all there, and if not, why not?, it was clear that there were no hazards in the schedule under this starter's orders.

The conference began well with a paper by MISS FELICITY LANE FOX, surely one of the ablest of disabled people, who gave us, from her wheeled chair, a clear and reasoned account of what she regarded as an ideal house for a disabled person. She wanted 'houses with a subtle difference,' with much emphasis on the 'subtle,' for disabled people want houses which help them to overcome their disability, not reminders of it in brand new gleaming gadgets and clinical effects. She wanted basically a simple, single-storey house, such that normally able people could live in with equal comfort. The points of detailed design which she made, listing such requirements as non-slip floors, waist-high switches, wide corridors and doorways, sinks and wash-basin heights, bath arrangements, and heating, were to come up again and again.

Living With Disability

DR. FRANK COOKSEY, of King's College Hospital, gave the next paper on the 'Effects of Disability on Daily Living,' and covered the ground of detailed needs in the home with great thoroughness. He reminded the conference of the insidious development of disability in old age and of the increasing number of disabled in our midst. It is no longer a minority problem, as was evidenced by the figures he gave us on the issue of wheeled chairs. Twenty thousand chairs were issued by the Ministry of Health last year. 'We are catering for a big national problem,' he told us. Ramps, stairs, handrails, baths, showers, the possibility of hydraulic lifts —all were discussed in turn with varying degrees of agreement and difference.

DR. FLOYD, of the Loughborough College of Technology, managed to get us away from the bathroom and kitchen for a while to a more fundamental approach in a paper entitled 'Ergonomic Considerations in the Design of Buildings for Disabled People.' For those whose dictionary has not yet caught up with this 12-year-old science, we have it on the very good authority of Dr. Floyd himself that ergonomics means a study of the natural laws of work, and it makes use of scientific knowledge gained from anatomy, physiology and psychology. The study covers the whole field of human working activities and in its particular application to the problem of the disabled it considers movement, posture, vision, reach, temperature ranges, space requirements and the inter-relationship of these factors in determining standards of design. Dr. Floyd makes an earnest and convincing ergonomist (one is loath to let the word go, for chances of using it are few), and if his new science means, as he makes it appear, that we are to concentrate on adapting machines to men instead of men to machines, then the sooner the dictionary finds it a place the better.

Human Needs in Design

MRS. CLAIRE RAYNER, who delivered her paper on 'Human Needs in Design' with what the Chairman described as a machine-gun approach, was the first speaker to lay stress on the importance of aesthetic considerations in designing for the disabled. She wanted the more distressing functions of equipment for the disabled to be suitably disguised but, as a later speaker put it, no Heath Robinson effects. She told us of a hospital patient who could not be persuaded to use her new crutch because it looked 'too crutchy.' It was suggested in the subsequent discussion that the Council of Industrial Design should be invited to provide a section for medical equipment, and Mrs. Rayner, who is connected with the work of the Council, promised to make the point.

For the architect looking for a clear brief, the most valuable contribution of the morning came from the orthopædic surgeon, MR. NORMAN CAPENER. His lucid and very carefully considered paper analysed the medical conditions of disablement and the physical limitations which they impose in relation to the mechanics of living. The briefing was logical and comprehensive, starting with general principles and expanding into details of domestic design. He asked architects to remember how surprisingly well able to move about their homes disabled people are, providing they have perfectly level surfaces to do it on, and in designing for flexibility he asked them to think more in terms of up and down movement when considering such things as sinks, wash-basins, baths and beds. He appeared to think that more up and down flexibility of fittings would be equally welcomed by the physically disabled who do not necessarily come in standard sizes.

Mr. Capener must have endeared himself to every architect member of his audience when he told us how well they do these things in Scandinavia. There, the architect is not required to design the building shell only, leaving the interior fittings and equipment to others: he is the author of the total concept down to the last piece of equipment, with the result that the building he hands over to his clients is a much purer entity of co-ordinated design than anything architects are allowed to do here. 'How much better they do things in the Scandinavian countries' became a truism by the end of the day!

The morning session ended with a paper by MISS BARBARA NAISH, of the Royal Society for the Prevention of Accidents, which provided a useful summary of the causes of accidents in the home, with some startling figures about the numbers of casualties.

The afternoon session gave the architects an opportunity to provide an answer to the pleas for more co-operation and the charges of 'architectural barriers.' MR. SHEPPARD FIDLER used his allocation of time to describe his own experience in Birmingham. With the Welfare and Housing Management Departments of the Corporation as his clients, he is at present building a seven-storey slab block as a residential home for seventy handicapped persons. The plans he described appear to take account of most of the things that other speakers had advocated. In the general exchange of ideas that followed Mr. Fidler's talk, the good news was received of the appointment of Mr. Selwyn Goldsmith, ARIBA, to carry out research and prepare a manual co-ordinating all the diverse information with which the conference was attempting to deal.

The eighth paper of this hard-working day was by DR. STEWART, of the Princess Margaret Hospital at Swindon, who told us of his experiments in a residential flat attached to the physiotherapy and occupational therapy departments, where disabled patients are trained in modern methods of looking after themselves. Dr. Stewart was fully conscious of the limitations imposed by economic necessity in his work, and this point was the ugly intruder in all the discussion. MISS LANE FOX, always speaking up ably on behalf of the disabled, faced the issue squarely and bravely when she said 'we are expensive.'

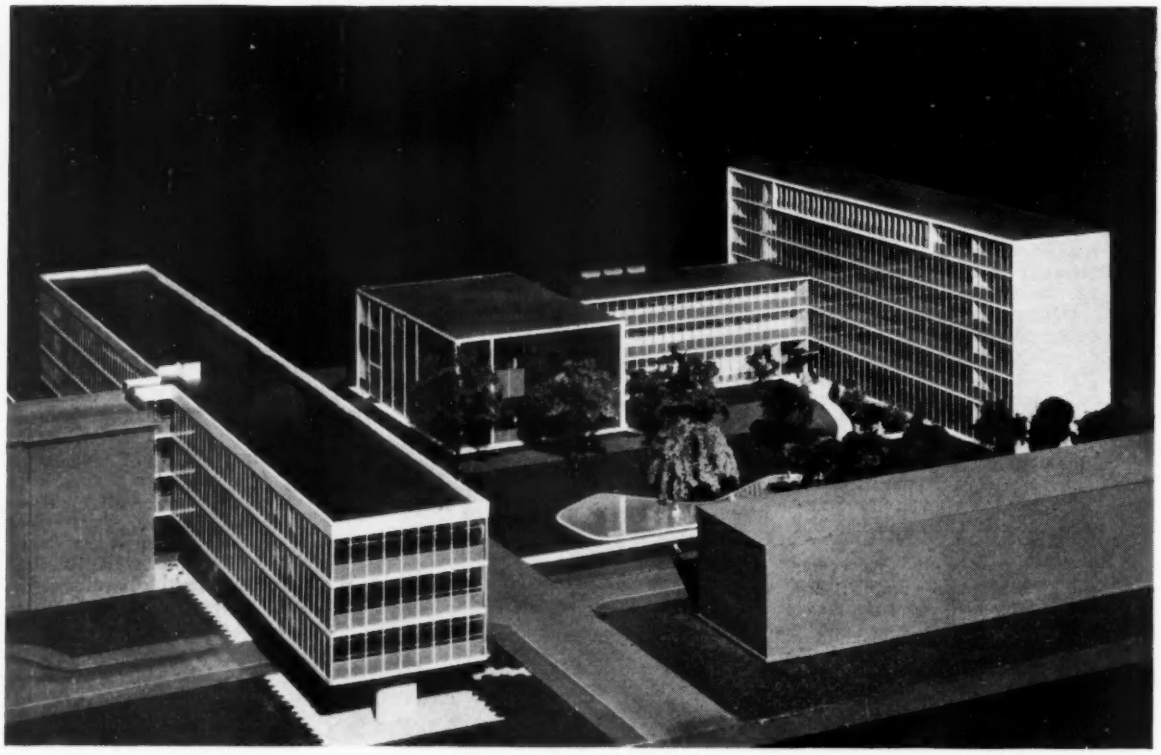
Disabled Children

When MR. HOWARD LOBB got up to deliver the final paper of the conference, the Chairman condoled with him on being the last man in to bat, but Mr. Lobb found his position an easy one since he considered the match already won anyway. The title of his paper at first sight looked as though it might have been lifted from one of our fashionable new indexes—'Environment, Planning, Colour, Scale, Human Approach'—but, in effect, it proved a much jollier affair, for he told us of the alterations carried out by his firm at a home for disabled children, and of the normal life lived there by the keen, although handicapped, youngsters who had so obviously en-

(concluded on page 1041)

National Physical Laboratory, Teddington

H. A. SNOW, ARIBA, superintending architect, MoW
M. WOOLFSON, MIEE, superintending engineer
O. P. CARVER, ARIBA, and J. MOSS, ARIBA, senior architects
D. R. ORCHARD, BSC, AMI MECH E, senior engineer



model of autonomics and basic physics buildings

THREE RESEARCH BUILDINGS are being constructed at Teddington which will cost in total about £1m.

The need for these buildings has arisen as a result of the reorganisation at the Laboratory in 1958, when some divisions were regrouped and others created. The new buildings now going up are for three divisions at present inadequately housed in buildings scattered over a fairly wide area of the NPL site and in urgent need of new quarters. In addition, the new buildings will provide improved research facilities and a whole range of new scientific equipment.

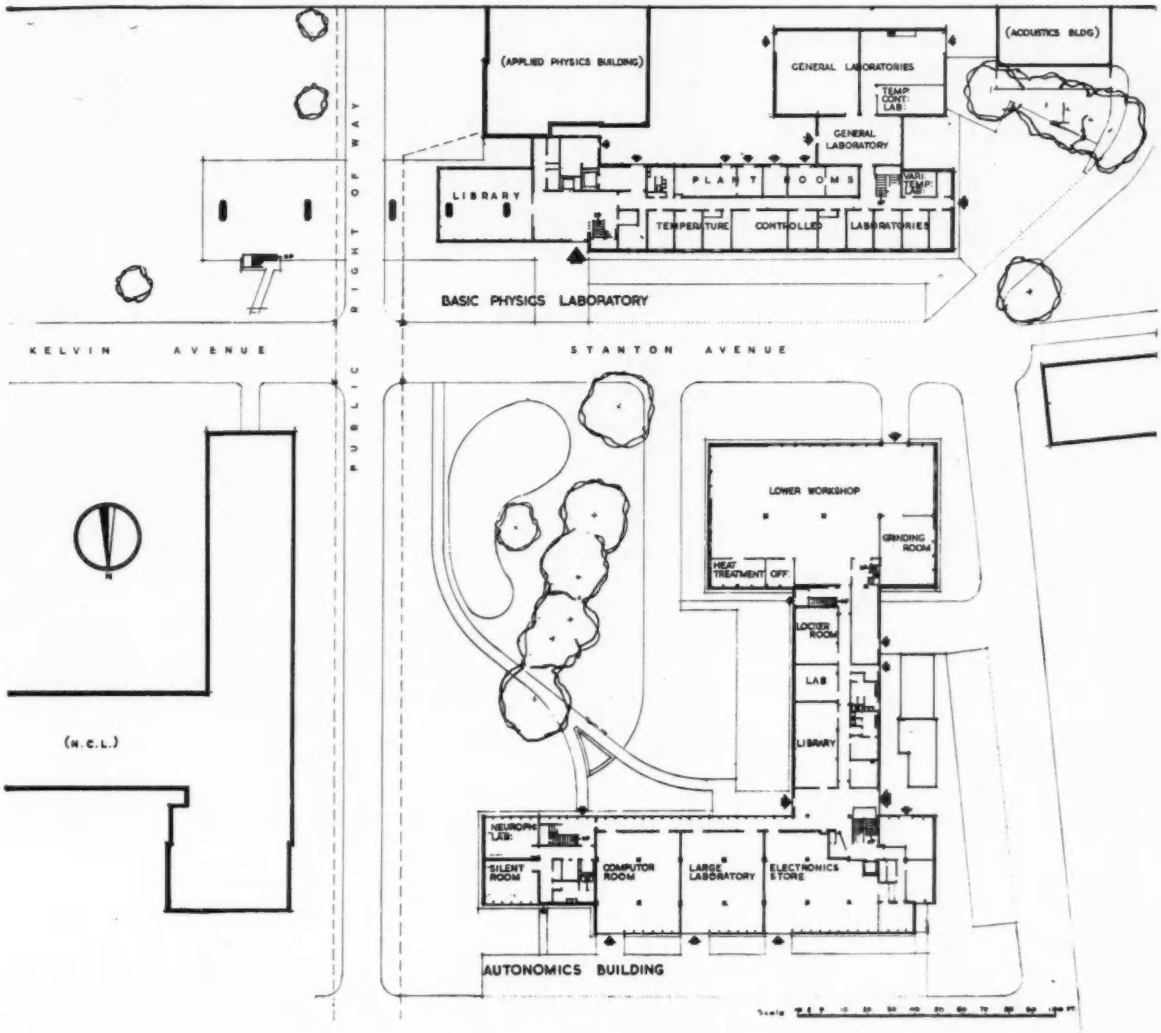
Some unusual features are being incorporated in these new buildings. The autonomics building, where research will go on into various aspects of automation and automatic control systems, will have a silent room on the ground floor, weighing 54 tons, which will be mounted on a separate, resilient foundation. This is virtually a concrete room inside a concrete room, so that the inner chamber is completely isolated from outside noise.

Next to this will be a vibration-free room for neurophysiological research on animal vision and hearing which will be screened all round to prevent electrical interference from outside sources. A suite of dust-free rooms will also be provided, arranged to give progressive degrees of cleanliness, the final one eliminating dust particles entirely.

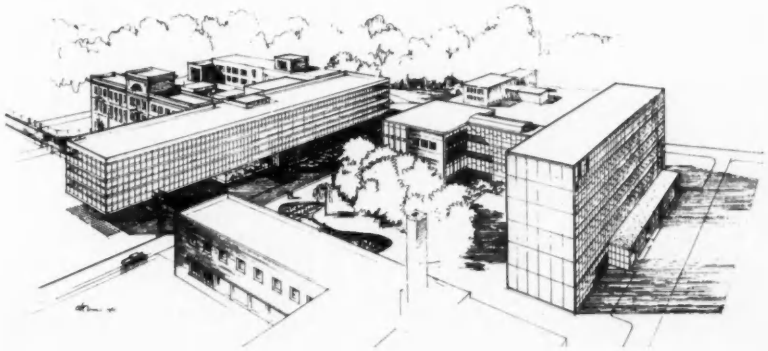
The Basic Physics building for the study of the physical properties of materials in relation to their ultimate chemical nature, will incorporate eleven rooms in which constant temperatures can be maintained, in most cases to limits of plus or minus 1°F. Individual air-conditioning units will be fitted in each room capable of cooling, heating, humidifying and de-humidifying. In addition, a dust-free laboratory will be provided with air-conditioning plant designed to exclude all particles down to 1 micron in size.

The Mechanical Working laboratory is being built for the Metallurgy Division, one of whose functions is research directed towards understanding the factors which will lead to improved strength and ductibility of alloys. The equipment will include a specialised sheet mill capable of rolling sheet to a thickness of a thousandth of an inch and less, and a 700-ton extrusion press.

Building contractors for the three schemes are:—Basic Physics: James Carmichael (Contractors) Ltd.; Autonomics: Lavender McMillan (Contractors) Ltd.; and Mechanical Working laboratory: E. Gostling (Builders) Ltd.



Above, site layout and ground floor plans of autonomics building and basic physics laboratory. Right, site perspective from north-east with autonomics building on the right



Three-Storey Terrace Housing, Kent

RAGLAN SQUIRE & PARTNERS, architects

WREN PROPERTIES LTD., general contractors

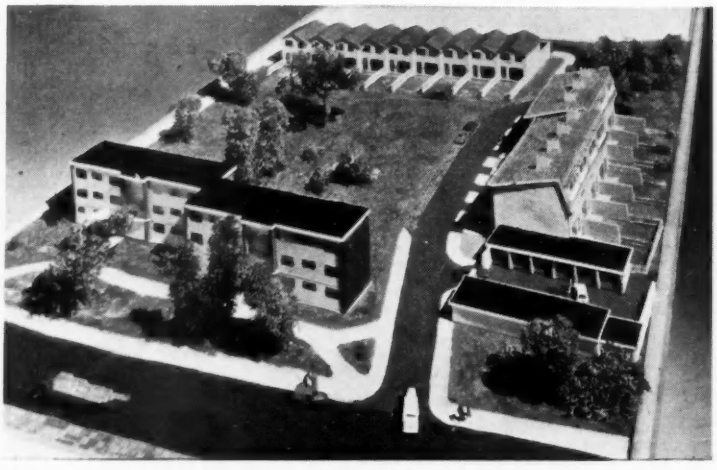
THIS 3-STOREY TERRACE of seven houses is the first phase of a small speculative housing scheme at Rectory Green, Beckenham, Kent. Future phases will consist of two 3-storey blocks of flats and a terrace of nine 2-storey houses.

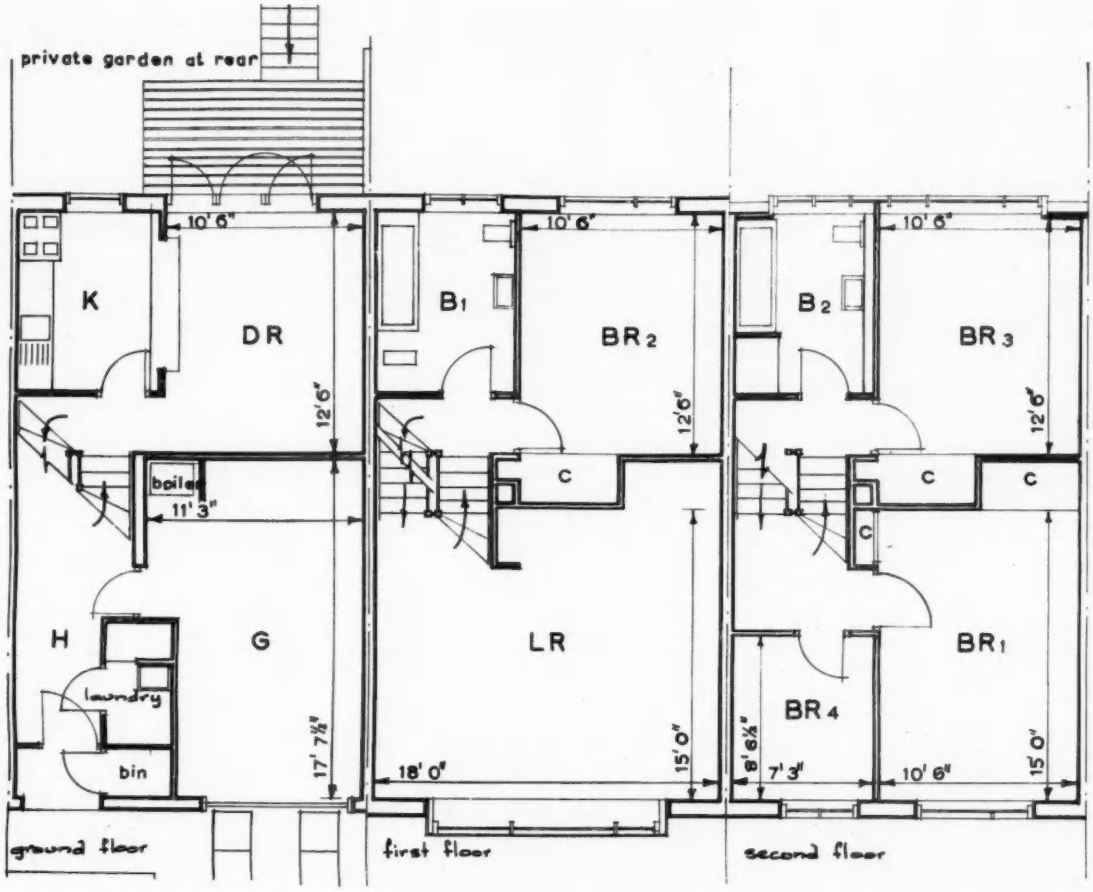
The 3-storey terrace house is designed with split levels between front and rear on all floors. This mezzanine planning arrangement provides the maximum accommodation requirements with only very short stair flights linking each area. The ground floor contains the garage and utilities at the front and dining room and kitchen at the rear. The lounge is at the first floor half-level and occupies the front half of the house. Above this level are three mezzanine floors of bedroom accommodation and two bathrooms. Central heating is by Delmore oil-fired boiler fed by the Meteroil supply system of Charrington, Gardner, Locket & Co. Ltd. The oil supply is stored in a central tank of 3,000 gal. capacity and supplied to each house by underground piping. V.A.F. meters record each resident's consumption. This district heating in miniature obviates the multiplicity of oil storage compartments in the gardens of each

rear elevation, verandah and garden court

front elevation

site model with 3-storey terrace on the right





one of the two bathrooms

front entrance with bin compartment on right

dining room and kitchen servery

dwelling, and the bulk oil purchases secure cheaper rates of fuel.

The house exterior is faced with multi-coloured hand-made bricks, with Hardrow concrete roof tiles. Flooring is of t and g boards, sheet composition boards in bathrooms and kitchen, and Accoflex tiles. Doors are finished in fine hardwood veneer.

The house may be bought with the standard range of kitchen fittings which consist of complete fitments from the 'Kandya' range of furniture, 'Pland' double-bowl stainless steel sink with 'Biflo' mixer, 'In-Sink-Erator' waste disposal unit, 'NuTone' electric food mixer and the Thompson-Tappan automatic electric cooker with rotisserie and hob unit. Lease: 99 yrs.; price £7,250. Laurie Fricker, Dip.LA, landscape architect for the scheme. Exterior maintenance is controlled by a residents' company.

Three-Storey Terrace Housing, Kent

the quite spacious living room

Architectural Design for the Disabled

(*continued from p. 1035*)

deared themselves to him in the process. Normal life was the theme of his message, and from his account of what went on, it would appear that these children had it abundantly and exuberantly. This seemed to be an instance where the architect had been able to achieve Scandinavian standards of total design, with these very happy results.

The extent to which the conference had succeeded in dislodging the idea that the disabled are abnormal could have no clearer witness than THE CHAIRMAN in his summing-up when he said that he spoke 'as a normal non-disabled person.' Miss Lane Fox's early plea for the 'subtle difference' had been subtly acknowledged. But there was nothing subtle about his clear-cut examination of the achievement of the day, nor in his precise 'stringing together of individual pearls.'

The individual pearls which he had lifted from the Olympian oyster-bed included Miss Lane Fox's admission that 'we are expensive,' Miss Naish's telling figures on the number of accidents in the home, the references during the discussion to 'architectural barriers,' the need for standardisation of equipment and the emphasis which had been placed on the special need for firm fixings and rigidity if disabled people are to rely on the installations designed for them.

He considered that the conference had been a success in that it had brought together a bunch of specialists who had thrown all their best thinking into the pool. It had not succeeded in devising means to achieve a normal life for disabled people. The clue to solution lay in a wider interpretation of the word 'economics.' Two costs were involved to the community: one in maintaining disabled people who are not doing as much as they ought to be doing, and another in the large number of accidents. His experiences as an engineer in industry had proved to him that when the true costs of a problem are known, greater attention is paid to it, and if progress was to be made in solving this problem he suggested that the economic nerve of the community must be jangled.

If one may be permitted a summing-up of the Summing-Up, it can perhaps best be done in the Chairman's own words about Mr. Goldsmith, the young and newly appointed research fellow who is to produce a manual of information on the whole subject. Mr. Goldsmith, he considers, has a 'hell of a task' in front of him. Than which no truer word was said. God speed Mr. Goldsmith on his way!

Construction in the Third Quarter

CONTRACTORS in Great Britain carried out work to the value of £620m. in the third quarter of 1961, which was £16m. more than in the previous quarter and nearly £70m. more than in the third quarter of last year, according to Ministry of Works figures. Full details of the quarterly figures will be given in an early issue.

News of the Week

RIBA Scottish Meeting

A MEETING of RIBA members in Scotland is to be held in Edinburgh at 2.30 p.m. on Saturday, March 31, 1962, at the North British Hotel. This will follow the lines of the meeting held in Leeds in May for members in the North of England. The president and other honorary officers, chairmen of important committees and members of the RIBA staff will be in Edinburgh to meet the members and to discuss professional matters with them. It is expected that there will be a full discussion on the report of the Office Survey. There will also be time for members to raise other matters of special interest, and to question the representatives of the RIBA. The meeting will last until about 6 p.m., with an interval for tea. Afterwards a bar will be open for informal discussion. The meeting is open to members of the RIBA or the RIAS and to student members.

Development Plan for Deal

PROFESSOR J. S. ALLEN has been invited by Deal Borough Council to act as consultant architect for the preparation of a comprehensive development area map for the Middle-street area of Deal. The cost of the fee (£4,000) and expenses (£300) will be borne equally by the Kent County Council and by the borough council. Mr. Allen is Professor-in-charge of Durham University Department of Town & Country Planning.

Town Preservation Proposals

A REPORT on a house to house survey on a comprehensive preservation scheme for Lavenham, Suffolk has been made by Mr. D. W. Insall, ARIBA, who was commissioned by the West Suffolk county council. Recommendations for the town, which it was feared might be spoiled by deterioration and property speculation, includes the formation of an advisory committee of local authority and government representatives who would be in charge of the preservation programme. It is also suggested that deteriorating property should be restored, if necessary, by the Cosford rural council who should also purchase vacant sites and build houses designed to maintain the style of the street. The parish council should keep a store of old building materials for re-use. The report has been studied by the county council's planning committee and referred to a sub-committee for detailed investigation.

Co-ordination in Town Planning

THE CHIEF TOWN PLANNER for the New South Wales Government, Mr. Adrian Ashton, has emphasised the need for Australia to co-ordinate its own planning policy on a long-term basis. Mr. Ashton, who has recently visited Britain, Europe and north America, said that in the big cities of Australia there must be a reconciliation between the suburbs and their inner cities if overall development was to proceed properly. In America, with similar growth problems to Australia, local government in metropolitan areas had failed to organise properly its administrative thinking and town planning. Mr. Ashton said he thought the solution for Australia lay in satellite cities or cities with multiple business centres.

FAS Annual Dinner and Ball

ALWAYS noteworthy for its pleasant informality, this year's annual dinner and ball of the Faculty of Architects and Surveyors, which was held at the May Fair Hotel, on November 24, marked another step in arranging the evening's programme to please the ladies (and no doubt many of the members and male guests also) by reducing the number of speeches to two. This innovation undoubtedly proved a great success, and it is to be hoped that the same procedure will be repeated next year.

Mr. E. H. Turner President, FAS

The two speeches that were on the toast list were just the right weight for such an occasion. The President for 1961-62, Mr. E. H. Turner, ARICS, welcomed the guests in a witty and amusing speech in which he revealed, incidentally, that he is the first Chartered Surveyor to occupy this position since 1931.

The toast of the Faculty was proposed by Professor Sir Albert Richardson, PPRA, FRIBA, who in his inimitable way condemned the horrors of the age, real and imagined, and appealed to England to wake up and save her heritage of beauty and culture before it was too late. Dancing to Howard Aynstey and his orchestra and a varied cabaret completed a convivial evening.

Commission for the New Towns

DR. CHARLES HILL, the Minister of Housing and Local Government and Minister for Welsh Affairs, has appointed Mrs. B. F. R. Paterson, JP, and Mr. J. M. A. Smith, as members of the Commission for the New Towns. Mrs. Paterson is a Hertfordshire county alderman, chairman of the county health committee and a member of the North-East Regional Hospital Board. Mr. Smith is director of finance and assistant managing director of the Ford Motor Co.

Aylesbury Town Development

IN ITS REPORT to the County Council on November 29 the Middlesex county planning committee stated that Aylesbury was engaged on a scheme of town development in association with the London County Council with the intention of giving maximum relief to the metropolitan area. The overspill problem is not confined to the metropolitan area and Aylesbury has approached the County Council to ascertain whether arrangements can be made whereby the Housing

Act powers might be implemented to the advantage of both authorities. The revised town map of Aylesbury provides for a population increase from 24,000 at present to 42,500 by 1974. To maintain balance of community it is proposed that about half the additional population will be housed under town development, the remainder being satisfied by private development.

Coal Board Architects' Merger

THE PRESENT ARCHITECTS' DEPARTMENTS of the Durham and Northern (N & C) Divisions of the National Coal Board were merged on November 20 under the present Divisional Architect to the Northern (N & C) Division—Mr. J. C. Spooner, ARIBA. The office will be at the Durham Divisional Headquarters, Team Valley Trading Estate, Gateshead 11, Co. Durham.

Appointments and Retirements

MR. E. W. STANLEY, BA, ARIBA, assistant city architect (education and general) at Sheffield, has been appointed deputy city architect at Leeds.

MR. ALAN J. GROVES, ARIBA, will be taking up duties as assistant city architect (education and general) in the City Architect's Department, Town Hall, Sheffield, on December 4 next. MR. J. LYNN, BA (HONS ARCH), was promoted assistant city architect (central area) with effect from October 1 last.

THE chief architect of John Smith's Tadcaster Brewery Co. Ltd., SIR BERTRAM WILSON, FRICS, LRIBA, JP, retired recently. He had been associated with the company—the largest independent brewery in the North of England—for 54 years. MR. J. LEITH, LRIBA, has been appointed to succeed him.

MR. G. WILD, deputy engineer and surveyor, Hartley Wintney RDC, has been promoted engineer and surveyor with effect from the beginning of December, to succeed MR. P. J. MITCHELL, FRICS, AMISE, MRSAN I, FIAS, who is leaving to go into private practice.

MR. V. THOMPSON, assistant engineer to Dungannon RDC, Northern Ireland, has been appointed town surveyor, Armagh UDC, to succeed MR. R. E. CORRICK, MIMUN.E, who has been appointed surveyor to Magherafelt RDC, Co. Fermanagh.

MR. K. NAYLOR, FIHSO, ARSH, housing manager to Wimbourne and Cranborne RDC, has been appointed housing manager to Axbridge RDC from the beginning of December.

MR. T. B. ADAMSON, MRSAN.A, surveyor, public health inspector and water engineer to Amble UDC, Northumberland, has been appointed engineer, surveyor and water engineer to Cromer UDC, in succession to the late MR. J. A. HAIGH, AMIPHE, and will take up the post in the middle of December.

MR. W. G. PENNY, MIME, AMISE, deputy borough engineer at Derby since 1946, has been promoted borough engineer and surveyor, to succeed MR. M. L. FRANCIS, FRICS, MIMUN.E., MINST.RA., who has retired after 18 years in the post.

MR. R. W. NASH, chief assistant engineer, Hatfield RDC, Hertfordshire, has been appointed engineer and surveyor to March UDC to succeed MR. W. S. PICKETT, MINST.RA, AMISE, who retires on January 31.

MR. S. L. MITCHELL, AMICE, AMIMUN.E., borough engineer and surveyor at Grantham for five years, has been appointed engineer and surveyor at Batley, to succeed MR. T. MOSSOP, MINST.ME, who is to retire on December 31.

MR. W. BEAN, deputy area planning officer at Harrogate for the West Riding CC, has been appointed town planning officer, Middlesbrough to succeed MR. J WORTHINGTON, MIMUN.E., AMTPI.

MR. JOHN RICHARD FLETCHER, chief assistant engineer at Norwich, has been appointed deputy borough engineer at Northampton, to succeed MR. WILLIAM STRUTHERS, who has been appointed city engineer at Lincoln.

Professional Announcements

MESSRS. DAYDON GRIFFITHS, FRIBA, and R. U. ROBINSON, DIPLARCH, ARIBA, have changed their address to 18 Maddox-street, Hanover-square, London, W1 (tel.: Mayfair 2832/3).

MR. PETER J. KING, ARICS, AIARB, has commenced practice as a chartered quantity surveyor at 17 Montgomery-road, Newbury, Berks. (tel.: Newbury 2912).

MR. P. H. GALVIN, FFS, incorporated quantity surveyor, Viaduct House, New-road, Chippenham, Wilts., has opened an office at 122 Exchange Buildings, Mountstuart-square, Cardiff (tel.: Cardiff 31430) in the charge of MR. J. C. RICHARDS, who will be glad to receive trade catalogues and literature.

A Hundred Years Ago

From The Builder of Nov. 30, 1861

THE INFERNAL DOINGS OF THE NOTORIOUS SHEFFIELD TRADES' UNIONISTS.—Another of those diabolical outrages which have so long made Sheffield a disgrace to this country has just occurred, to the severe injury of two poor women, but failing in its principal object, namely, to murder a workman and his wife and child in their beds by an 'infernal machine' charged with gunpowder, and probably as usual with nails and other deadly missiles. It was cast through a window into a bedroom of the house in which they slept. The intended victims, however, slept in the room above; but the wife rushed downstairs and into the room below, where a poor old woman slept, and seized the rude grenade, a tin bottle with a lighted fuse. It exploded in her hands, set fire to her night-dress, and she was severely burnt. The house was set on fire as well as much damaged by the force of the explosion. Are the terrors of trades' unions to be longer allowed, at Sheffield, thus contemptuously to override the terrors of the law? Even were it requisite to pass a special Act for the purpose, such a nest of vermin ought to be rooted out; and we have little hesitation in saying that the ringleaders of so detestable a conspiracy ought to be lashed through the streets of Sheffield and then strung up.

Coming Events

MONDAY, DECEMBER 4

SOCIETY OF ENGINEERS.—'Design of Large-Span Suspension Bridges,' by Mr. R. F. Godman. Geological Society, Burlington House, W1. 5.30 p.m.

RICS.—'Post-War Developments: The Location of Major Projects in England and Wales,' by Dr. E. C. Willatts. 12 Gt. George-st., SW1. 5.45 p.m.

TOWN AND COUNTRY PLANNING ASSOCIATION.—'Profits from Planning,' by Mr. T. Donaldson. 28 King-st., WC2. 6.30 p.m.

INSTITUTE OF BUILDERS' DISCUSSION CLUB (LEEDS AND DISTRICT CENTRE).—Film: 'Motorway.' The Griffin Hotel, Leeds. 7.30 p.m.

TUESDAY, NOVEMBER 5

HOUSING CENTRE TRUST.—'The Hook Project for a New Town,' by Mr. J. Craig. 13 Suffolk-st., SW1. 6 p.m.

LONDON MASTER PLASTERERS ASSOCIATION.—Annual dinner and dance. Grosvenor House, Park-la., W1. 6.30 p.m.

INSTITUTION OF STRUCTURAL ENGINEERS (SCOTTISH BRANCH).—'Crane Erection Problems,' by Mr. W. H. Arch. Institution of Engineers and Shipbuilders, Glasgow. 7 p.m.

WEDNESDAY, DECEMBER 6

BUILDING CENTRE.—Forum. 'Colour: Co-ordinated Ranges for Building.' Opening speakers: Mr. H. L. Gloag and Mr. W. E. Holley. 26 Store-st., WC1. 6 p.m.

REINFORCED CONCRETE ASSOCIATION.—'Watertight Concrete Basements,' by Mr. L. R. Creasy. 11 Upper Belgrave-st., SW1. 6 p.m.

TOWN PLANNING INSTITUTE.—'Planning in Britain: Some Next Steps,' by Sir Colin Thornton-Kemsley. Livingstone Hall, Carteret-st., SW1. 6 p.m.

INSTITUTION OF STRUCTURAL ENGINEERS (LANCS. AND CHESHIRE BRANCH).—'The Plastic Design of Steel Framed Structures,' by Prof. M. R. Horne. College of Science and Technology, Manchester. 6.30 p.m.

INSTITUTION OF STRUCTURAL ENGINEERS (NORTHERN COUNTIES BRANCH).—'Some New Developments and Applications of Prestressed Concrete,' by Mr. H. Kaylor. Neville Hall, Newcastle. 6.30 p.m.

INSTITUTE OF BUILDERS' DISCUSSION CLUB (NEWCASTLE AND DISTRICT CENTRE).—Discussion: 'The Package Deal—an All-in Service.' Royal Turk's Head Hotel, Grey-st., Newcastle-on-Tyne. 7.15 p.m.

BUILDING SURVEYORS' INSTITUTE (GLOS., SOMERSET AND N. WILTS. AREA).—Talk: 'The Stone Industry Today.' Smith's Assembly Rooms, Westgate Buildings, Bath. 7.30 p.m.

INSTITUTE OF QUANTITY SURVEYORS (TYNE/TEES CHAPTER).—Joint meeting with IoB: 'Bonus and its Effect on the Building Industry.' Newcastle-upon-Tyne. 7.30 p.m.

THURSDAY, DECEMBER 7

ARCHITECTURAL ASSOCIATION. — Informal dinner and discussion. 34/36 Bedford-sq., WC1. 7 p.m.

INSTITUTE OF QUANTITY SURVEYORS (NORTH-WEST BRANCH). — Annual branch dinner. Waldorf Hotel, Cooper-st., Manchester 2.

FRIDAY, DECEMBER 8

INSTITUTION OF STRUCTURAL ENGINEERS (SOUTH WESTERN COUNTIES SECTION).—'Site Production and Placing of Concrete.' by Mr. R. J. Tatt. Duke of Cornwall Hotel, Plymouth. 6 p.m.

Architects at Golf

RIBA Society's Autumn Meeting

THE RIBA GOLFING SOCIETY held its autumn meeting at St. George's Hill Golf Club on October 26. The Selby Bowl was won by Mr. Victor Farrier with a net score of 72, and the runner-up was Mr. D. White with a net score of 75. In the afternoon the Emberton Trophy for foursomes was won by Mr. R. Duncan Scott and Mr. R. Shannon with 35 points, who won on the last nine holes from Mr. A. Tyler and Mr. C. Tucker also with 35 points.

During the evening the Society held its annual general meeting, and the secretary, Mr. S. H. Statham, announced with great regret that owing to ill health Mr. St. John Harrison had resigned the presidency. Mr. R. Duncan Scott was elected as his successor. Mr. S. H. Statham relinquished the secretaryship for one year in order to be elected captain and Mr. J. L. Barnard undertook to act in his place. In the absence of the treasurer he also undertook to act as the society's treasurer.

All inquiries concerning membership should now be addressed to Mr. J. L. Barnard, ARIBA, c/o Messrs. L. D. Tomlinson & Partners, Quadrant-arcade, Romford, Essex.

More Everyday Things

BY ARTHUR W. KENYON, CBE, FRIBA

70. Pebbles for Paving

IT COMES as a refreshing reprieve to our concrete-weary eyes to see the pebbles which the LCC are using in their garden layouts. Not only are these being used in the gardens, but they are being laid as a paving strip the whole length of Park-lane and in the park bordering the grass. Lest there should be protests from those tender of foot, let me hasten to add that this is not a footpath intended for general use—although I did hear of one lady pedestrian who was driven to performing a tight-rope walk along the curb as preferable to picking out a stiletto course through the pebbles.

The pebbles are really small boulders about the size of an ostrich egg. I have not made inquiries as to where these have come from, but I like to think they are found on the shore at Brighton or Dover, or perhaps even as far away as Cornwall or Scotland. Perhaps, even now, armies of pebble-pickers are strolling the beaches searching for suitable stones. They must be carefully selected for size and colour; they must be shapely and easy to handle.

What fun all this must be to everyone concerned. The pebbles arrive in great lorry loads and are shot into little cromlechs about the park to be wheeled in barrows to the men at work. One by one, they are placed in position and tamped down until they are even and level. What a delightful paving it makes. If this is a success perhaps we shall find all manner of designs appearing underfoot until we can rival the lovely pebbled and mosaic pavings of the Portuguese.

Surely, if we go on with this, we must introduce the pavé stool which they use

abroad and which I have spoken of before. If we are to revive the art of paving, we must not ask our paviors to go on doing their work crouched in an uncomfortable sitting posture all day long. The three-legged stool was used for milking because it fitted on uneven ground, and the one-legged stool is used for paving because it can be moved as required with the occupant 'in situ'. I am sure High Wycombe would revel in the job of making these stools with a dished-out seat and a square, turned and twisted leg. The design might even come to replace the shooting stick which is always too high anyhow.

I wonder why the paviors abroad always work their granite setts in the shape of a fan, whilst we always work square. There is no doubt a whole history to be learned from national pavings, if one took the pains to ferret it out.

All thanks to the LCC for their many blessings (albeit some of them appear in disguise), and not least for this reminder of rural England in our midst and the revival of the pavior's skill. When next you visit the coast, you might like to keep a weather eye open for the LCC pickers on the shore: you might even feel tempted to do a little gathering yourself and try your hand (or your seat) on a one-legged stool.

Rugby Football

Chartered Surveyors Beat the Chartered Auctioneers

THE ANNUAL rugby match between the Chartered Surveyors Sports Club and the Chartered Auctioneers was played at the Richmond Athletic Ground on November 15 resulting in a win for the former 13-3. The surveyors were the first to settle down and played with some confidence after Harvey intercepted a pass meant for the Auctioneers' full back, who had come into the line, and he had a clear run to score under the posts, leaving Nuttall with an easy conversion.

By far the most exciting play came after half-time, with both sides pressing hard and play ranged from one end to the other. Eventually, Harvey scored a fine try for the Surveyors, but the wick failed.

With the score 8 points to 3 in favour of the Surveyors, efforts were redoubled Wilkinson and Hosking. With but 5 minutes to the whistle Davies, an untiring Welshman at wing-forward, went over for a try for the Surveyors near the corner flag. Clap converted. Teams were:

Chartered Surveyors: R. E. Lowther; A. Stevens, R. Oakley, D. Harvey, M. Clap; B. J. Nuttall, R. Herbert; P. Copping, P. Alterman, H. F. Tunbridge, M. Beaman, A. Tunstill, E. Kannemeyer, E. J. Hosking, S. Davies.

Chartered Auctioneers: F. A. Ainscough; A. C. Barrett, R. F. Young, D. W. Scott, A. D. Latter; M. H. Greenough, E. S. Harvey; K. B. Rogers, S. Hibbeidine, P. F. Jones, D. C. Wilkinson, C. Oldroyd, R. G. S. Sykes, B. Noble, J. Keeling. Referee: Mr. N. G. Marshall.

RICS Revised Scale of Fees

Local Authorities to Discuss Charges for QS Services

PROPOSALS by the Royal Institution of Chartered Surveyors that there should be general acceptance of its revised scale of professional charges for quantity surveying services are now to be discussed by the local authority associations, who will then decide whether or not the scale should be adopted generally in the municipal field.

News of the new scale was released to local authorities earlier this year. Following its issue, the Association of Municipal Corporations wrote to member councils on August 9 saying the question was to be considered by the appropriate committee of the association but adding that if the authority had the scale it was not suggested that approval should be withdrawn.

The scale is for quantity surveying services for building and civil engineering work other than houses and flats. It does not alter or affect in any way the flats and housing scales dated December 1, 1959, already agreed with the local authority associations.

In a letter to the Association of Municipal Corporations the Institution points out that, in preparing the scale, the quantity surveyors' committee of the Institution's Council carried out wide costing investigations on a large selection of jobs by large, medium and small firms of chartered quantity surveyors.

Official Architects Needed

Salary Rate Blamed

MR. F. MELLOR, FRIBA, city architect to Portsmouth, has warned the corporation's development and estates committee that unless there is a re-grading of posts in his department it will become run-down. The main trouble was the rate for senior assistant architects, but other rates would have to be regraded also. Mentioning that there were six vacancies, Mr. Mellor added, 'You have not lost one qualified architect since June, but you are going to, and it will not be possible to replace them.'

Replying to a question, Mr. Mellor said there was a junior training scheme in the department with recruits spending part of their time at technical college, but it was 'not particularly successful.' The committee decided by nine votes to five to refer the matter to the finance and General purposes committee and the city council.

Obituary

John M. Brooks

THE DEATH OCCURRED on November 24 of Mr. John McMullen Brooks, FRIBA, FRICS, FFLA, at Rylston, Weybridge. He was 89. Mr. Brooks was a founder and one-time senior partner in the firm of Howell and Brooks of 4 Queen Victoria-street, London, EC4, which firm he latterly served as consultant.

Renfrew Spencer

THE DEATH HAS OCCURRED of Mr. Renfrew Spencer, LRIBA, of Rydal Brook, Vernon-avenue, Gedling, Nottinghamshire. He was for many years an architect in Nottingham city engineers' and surveyors' department and was a trustee and member of the Notts., Derby and Lincoln Society of Architects of which he was librarian for nearly 50 years. Mr. Spencer, who was 89, was elected licentiate of the RIBA in 1910 and retired in 1956.

Mobile Dwellings for London

Possible Temporary Use for LCC's Vacant Sites

AS BRIEFLY REPORTED in 'The Builder' of November 24, the London County Council has under consideration the possibility of making some temporary use of its vacant sites which are not required immediately for redevelopment. The housing committee on November 22 inspected three types of mobile dwellings erected temporarily for the purpose on the South Bank. The committee decided in principle that immediate action should be taken to place such dwellings on suitable sites in addition to the Council's present output of new permanent housing accommodation. The number, type and cost of the scheme have not yet been decided. It is understood, however, that while most of the 2,000 or so cleared sites held by the Council at any one time are required for redevelopment within two years, about 300, amounting to between 90 and 100 acres, are available for longer periods.

The three types of dwelling inspected were the 'Atlanta' and the 'Sun Cottage,' constructed by Caravan Services Ltd., and the 'Terrapin,' constructed by Terrapin Ltd. The 'Atlanta' and the 'Sun Cottage' are complete dwellings equipped with all the necessary fittings, fixtures and furniture. The 'Atlanta' is transportable as a complete unit and after unloading, wheels, axles and springs are replaced by steel jacks resting on concrete pads. The 'Sun Cottage' is transportable as two separate units which can be joined together in under an hour by a 'bolt-tight' seal, and which are supported also by steel jacks on concrete pads. The 'Terrapin' is a packaged timber bungalow capable of erection on simple prepared foundations in about one hour.

The 'Atlanta' has an overall length of 33 ft., a width of 8 ft. and a height of 9 ft. 9 in. externally. Its accommodation includes a lounge, a bedroom, a kitchen, flush toilet, lavatory basin and shower, and a small bunkroom for two children. It has a gas central heating unit circulating, via an electric fan, hot air throughout the bungalow through underfloor ducts. This system can be switched to air cooling during the summer. All drainage is channelled to one main outlet which is connected by a 4½ in. gaiter to the main sewer outlet. Simple connections are provided for mains water and gas supply. Each room is wired for electricity.

The overall dimensions of the 'Sun Cottage' are 20 ft. by 18 ft. with a floor to ceiling height of 7 ft. 9 in. The accommodation includes a lounge, two bedrooms, kitchen and bathroom. Service facilities are similar to those for the 'Atlanta.'

Accommodation provided in the 'Terrapin' includes a combined lounge/dining room, two bedrooms, a bathroom with flush toilet and a fitted kitchen. Its overall dimensions are 24 ft. 6 in. by 16 ft. 6 in. Services comprise electricity, hot and cold water (a 30-gall. lagged hot water cylinder with immersion heater and an 80-gall. cold water storage tank). Vented soil and waste drainage is connected to a common outlet ready for connection to external drains. A larger unit with two double bedrooms and an internal store can be provided by the addition of another section.

Before any decision is made on the use of such dwellings by the LCC, consultations are to be held with the various metropolitan borough councils concerned.

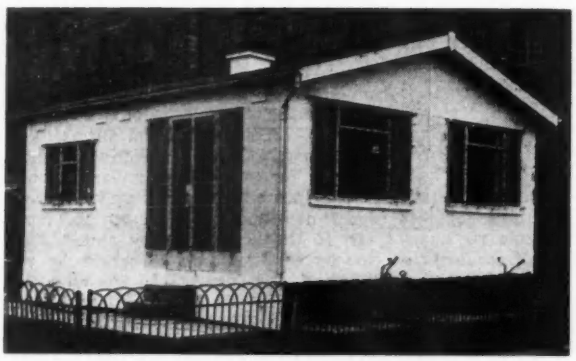
Above: An interior view of the lounge in the 'Sun Cottage.' Below left: The 'Sun Cottage' which has overall dimensions of 20 ft. by 18 ft. and provides a lounge, two bedrooms, kitchen and bathroom. It is transportable in two separate sections and stands on two jacks mounted on concrete pads. Right: The 'Terrapin' timber bungalow which can be erected in about one hour on simple prepared foundations

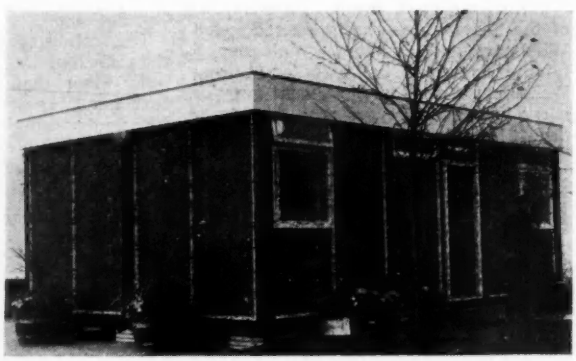
Office Zoning

LCC Reduce Plot Ratios Outside the Central Area

AT ITS MEETING on November 28 the London County Council discussed the question of office zoning outside the central area. As a result of stricter control by the Council of new office development in central London, developers are looking elsewhere for sites to meet the continuing demand for offices, and increasing numbers of applications are being received for permission for office development in office zones in the county outside the centre. The plot-ratio zoning for these areas is normally 2 to 1. A number of small areas throughout the county were zoned in the original Development Plan for office purposes and were intended to serve local needs for small professional and other offices.

As an interim measure, therefore, and pending a full review of the general question of suburban office zones, office development in these small areas will be limited to a plot ratio of 1 to 1, so as to discourage any substantial office building there. Prospective developers will be informed that permission will not necessarily be given even for development at the reduced plot ratio unless it is also clear that such development would not prejudice the Council's policy of dispersing offices to areas where large numbers of office workers live.





Planning the Building Programme

The Place for an Industrial Planning Council

A MOVEMENT AT PRESENT AFOOT in the building industry to set up an industrial planning council for building which should advise the Chancellor of the Exchequer what annual programme of work, over a period, the industry was capable of carrying out with labour and materials available, was referred to by MR. IAN M. LESLIE, OBE (Editor of 'The Builder') when he addressed the Junior Liaison Committee of Architects, Quantity Surveyors and Builders at the RIBA on November 23. Mr. Cyril Sweett, chairman of the National Consultative Committee of Architects, Quantity Surveyors and Builders, occupied the chair at the invitation of Mr. John Sims, chairman of the Junior Organisation of Quantity Surveyors.

Three things were necessary to an efficient building industry, said Mr. Leslie: one, a regular programme of profitable work; two, an efficient organisation; and three, a constant intake of intelligent, well-trained or trainable staff. Since 1919, he said, there had been much fluctuation in the volume of work, and it was something of a tragedy that the Building Industries National Council, originated in 1932 by the late Sir Raymond Unwin, with its ideas of maintaining a steady datum of work, should have perished. A fresh opportunity might now present itself in connection with the National Economic Development Council proposed by the Chancellor, for ideas originating within the industry were leading towards the establishment of an industrial planning council for the building industry—'a most imaginative move which, given the closest co-operation between the professions, contractors, operatives and materials producers, could usher in a new era for industry at large' said Mr. Leslie.

The Annual Programme

What annual programme that council would advocate was anybody's guess, but he personally hoped it would be something around 95 per cent of the industry's present capacity, with all that implied, for no one looking at British life today could doubt that over-full employment was Great Britain's greatest curse. 'It is because production has not kept pace with mechanical developments that I am nervous about the deductions made by Mr. John Wood at the Junior Liaison Committee's conference in Cambridge last September,' continued Mr. Leslie. 'Mr. Wood showed calculations which went to demonstrate that a building programme estimated to have increased in 1980 by 66 per cent would have to be carried out by a labour force only 5 per cent larger than at present. To achieve this target, output per man must rise by nearly 37 per cent over present production.

'I do not believe this even begins to look like a practicable possibility,' said the speaker. 'Over-employment of firms and individuals may be a good time to introduce more mechanisation and devise more economic building techniques, but not to get maximum results from them. The first essential in stepping-up production is to get the will to work. Improved management techniques can do something here, but I do not think for one moment that under present conditions they can take up all the slack.

'That is why I hope that any economic planning council that the building industry may institute will not set its sights too high, and that it may devise some formula to keep programme and production in step.' Otherwise our chances in the European Common Market would be remarkably slim.

The Industry's Efficiency

Looking at the efficiency of the industry's several parts, Mr. Leslie noted that the architects were beginning to take active steps designed to help towards what Mr. Gordon Ricketts had described as the RIBA's primary objective—the re-establishment of the architect's authority through greater efficiency. There was nevertheless room for much new thinking, on matters such as composite fees; why architects should debar themselves from holding directorships in building firms while being entitled to hold subordinate positions—'an anomaly that might be amusing did it not prevent the architect from getting a real grip on the design side of the industry'; and architectural education and training.

All such new thinking should be done against the background of the industry; every architect and student should plan his every move in the awareness that he was part of the industry, and not out on a wing by himself. Being 'leader of the building team' meant to him (the speaker) that the architect, as agent of the initiator of the project and as the creator of the design, must be the central figure in the project up to the time when work began on site. 'If it is then thought that he should continue to manage the building processes, taking the chair at site meetings and so on, then I say he should think again,' declared Mr. Leslie. 'Getting the building up is the contractor's job—that is what he is paid for and should be expected to do. If more architects put this responsibility squarely on the builder's shoulders, we should get cheaper and more efficient structures.'

Architectural education was beginning to get a new look, for a number of the schools were beginning to take the point that the architect today needed to know how to construct and organise for building as well as how to design. Design would come, as it used to come, out of a full knowledge of structure and materials, and be all the better for that. Taken over the whole field, it was the architect's technical shortcomings that had given the package-dealer his big chance, a chance which he had taken with doubtful benefit to the client.

The structural and services engineers were an essential part of the professional side of building. 'Why should they not have an honoured place on the National Joint Consultative Committee?' asked Mr. Leslie, adding 'I suspect they are not so recognised because architect and structural engineer have not defined their respective areas of responsibility.' Perhaps discussions now going on between the professions on the subject of the inclusive fee for building design would help in clarification, as well as lead in the direction of closer collaboration on projects—possibly to a form of professional 'all-in' service. As to quantity surveyors, their interest in cost planning should enable them to advise architect and, if invited, client on the comparative merits and cost of different structural methods and elements, and as such they could come early into the design team.

The builders, with the exception of the 'national' firms and the jobbing builders, were in for a difficult time unless more of them improved their efficiency and organised themselves for competitive work. Too many with a family background had been caught unawares by the flow of post-war building with organisations not always adapted to the new volume. Such firms could be helped by the Building Advisory Service. But nearly all builders fell down in their failure to recognise the part that the general foreman played in the successful execution of a contract; they did not provide proper training for him nor did they give him proper remuneration. The industry must recognise that it should no longer depend on foremen or site managers coming up only through the craft side of industry.

As to the operatives' unions, these were due for a good look at themselves—in regard to their relations with the employers on wages and conditions, and in their relations with other trade unions with a view to reducing the total number of unions, at present 19; encouraging the use of new techniques and preventing demarcation disputes; and in looking, in conjunction with the employers and technical educationists, at both the content and the duration of apprenticeship. Some of the National Joint Council's energies could, with advantage, be deployed to those important matters, said Mr. Leslie.

Efficiency and Communications

When the efficiency of individual units had been achieved there remained something equally important—the overall efficiency of the sum total, the building industry. This depended less on organisation as such and on machines than on men. The industry had got to make itself more attractive not only to craftsmen but to young men interested in the executive sides; some big firms were beginning to realise the potential of the well-educated young man and were making a special place for him on the promotion ladder. With this and the recast educational structure of the Institute of Builders,

building as a career became a more attractive proposition.

Overall efficiency depended on communications—of how to make the man next in the chain of responsibility for building understand what he was wanted to do. This could only be done, Mr. Leslie thought, by defining clearly the areas of responsibility and, so far as the present qualified generation was concerned, by bringing together young professionals and executives to discuss matters of mutual interest. Here the Junior Liaison Committee was doing a magnificent job which could be extended were the National Joint Consultative Committee to encourage the formation of more regional liaison committees. 'It is surprising how jet-propelled the ideas thus liberated can be,' said the speaker.

Longer term, the most promising method could well be joint or parallel training of young men within Colleges of Advanced Building Technology. One such was being sponsored by the LCC. 'This project is dreadfully slow in making a start,' said Mr. Leslie, 'but at least the idea has been accepted. Meanwhile other cities, Manchester and Newcastle among them, have stolen a march and got such courses running.' Everyone was delighted that the NJCC had persuaded Sir Noel Hall, principal of Brasenose College, Oxford, to act as independent chairman of a committee to consider ways and means in which joint training and education for the professional and contracting sides of the industry could be established. While not the only answer to the problem of getting efficiency through collaboration, it was perhaps the most promising.

Concluding, Mr. Leslie said: 'The future of the building industry lies as much in collaboration between men as in the development of new techniques. And I do not think I shall be alone in believing that as those who design, cost and construct buildings get a better understanding of the value of full collaboration—up, down and sideways—not only shall we get better architecture and more economic construction—we shall have restored a sense of purpose and even of fun to building, the greatest of the applied arts.'

Vote of Thanks

Proposing a vote of thanks to the speaker, MR. J. A. BRYDEN said he was in agreement with Mr. Leslie's general recipe for success in tackling the problems of the industry. He was sure that the key to this success lay in the re-establishment of the architect's authority in the building team. But he disagreed with any suggestion that the architect should become 'just a spoke in the builder's wheel'—the architect must practice as an architect.

On the use of computers for taking-off he, as a quantity surveyor, could give an assurance that the idea of using computers for this purpose was just a passing phase. They were looking for other and better answers to their problems, but they should thank the computer for making them look for these answers.

MR. J. A. GOODALL, who seconded the vote of thanks, paid a tribute to the 'well thought out paper' that they had just heard, which helped put them all in touch with what was happening in the building industry today. In the next few years, he suggested, anyone who did not keep in touch would be much handicapped in his work.

Discussion

Opening the discussion, MR. J. B. HORNBY said that, as an architect, he did not agree with the speaker's remarks that the architect should stand aside and let the builder get on with the building. The building itself would suffer if the architect did not keep an eye on it as it went up.

MR. A. R. F. ANDERSON said that he disagreed both with the last speaker and Mr. Leslie. While he heartily agreed that the architect should leave the builder to get on with his job if everyone was thoroughly competent it had, sadly, to be admitted that such perfection was not often obtainable; in practice, it was seldom if ever possible to give the builder such complete information that the architect's presence was not needed on the site.

AN ARCHITECT said that he would strongly oppose the idea that the architect should give up all responsibility once building work started. Site visits were the only way the architect had of seeing that the work was going ahead as desired.

A BUILDER opposed the idea of the architect visiting the site to see how the design worked in practice.

MR. CHANDLER (builder) said the idea that a builder might welcome variations as a means of making money was quite wrong. He had had experience of a great number of variations, but he had not seen any money made out of them.

MR. WINSTANLEY (estimator) said that the speaker had omitted to say anything about increasing productivity. Two things, he believed, were necessary, discipline and training, but how were they to achieve better training for the lower grades? Nobody seemed to be training them at the present time, and it was very difficult to get such people to attend night school classes. One reason for this was that so many modern techniques were so advanced that it was very difficult to get the rank and file interested in them.

Continuing, Mr. Winstanley said that the great difference between the building industry in this country and in Canada, the United States or Sweden was that in those countries building was the number one industry, but here it came sixth or seventh in popular esteem. Consequently, people did not break their necks to get into it.

Government Planning

MR. BUDD (quantity surveyor) said it was very important that the Government should have a five-year overall plan for the industry, and he would like to see the technical Press give greater emphasis to this point. One of the problems was that of the mobility of labour, which was something that would have to be faced.

MR. BROOKS said that the speaker's theme had been efficiency, but they should realise that the average layman rated the industry very low in this respect. There was no doubt that the present load of work was more than the building industry could tackle, and he would like to see builders themselves do something about it. Going round the country one saw under-manned sites, shortage of plant and so on, and he warned that unless something was done about it controls would be brought back.

In regard to the package deal, Mr. Brooks did not think that ultimately this would be in the interest of either the public or the builder. If it went on long enough lack of competition would reduce efficiency. He did not think that architects had the right approach to preplanning—they gave him the impression that all too often they were not interested in it. Mr. Brooks added that the trade unions should not be overlooked in striving for efficiency. If it was possible to create statesmanlike qualities in the unions they could make a tremendous contribution to the success of the building industry.

MR. COOKE (quantity surveyor) said he was disturbed by references to the fact that the industry had more work than it could cope with. There was a danger, he thought, that if we reduced the load we should perhaps deprive ourselves of the incentive to adopt new techniques.

MR. CANNELL said he thought that two points had come out of the discussion. We were expecting too much of the architect and we needed to go further into the question of selective tendering so that the builder, the quantity surveyor and the architect could get together as a team with the architect as the leader.

Finally, A CLERK OF WORKS who was at present engaged in work at Imperial College drew applause from all sides with his home truths for the architectural profession. To avoid some of the obvious mistakes being made he suggested that architects should spend the first year or two of their training on the building site.

Reply to Questions

Replying to the discussion, MR. LESLIE said he had not meant to suggest that the architect should not visit the site, but that he should not stay there and try to do the builder's job. On the question of why we could not get people to undergo training, he thought that the trouble came back to over-full employment. On negotiated tendering, he said that we were not going to get very far until there was more trust between the architect and the builder.

Summing up, MR. SWEETT said that productivity was a national problem. He thought that the setting up of a National Council of Building seemed a logical development now that we were following the French example of organising the economy. If such a council were set up he did hope that it would bring in the professions and be recognised by the whole of the building industry.

Kent Tree Preservation Order

THE KENT COUNTY COUNCIL has made an order which is intended to protect Snarkhurst Wood, Cottage Wood and other adjacent trees in the Hollingbourn rural district. The woodland forms an attractive visual feature close to the eastern part of the Maidstone motorway.

RICS Presidential Address

The Role of the Professions in Increasing Building Productivity

TOWN PLANNING, the price of land and the future of the building industry were among the subjects touched upon by MR. E. C. STRATHON, FRICS, FAI, in the course of his Presidential address to the Royal Institution of Chartered Surveyors in London on November 13.

On town planning and the use of land he said: 'In its conception, the green belts policy cannot be faulted; under existing legislation, the great cities damaged by the war are living again, our road systems are being brought up to twentieth-century needs, slums are being cleared, new towns have been and are being created, city centres are being redeveloped.'

However, he thought that there was much still to be done. Development plans were now in the course of their first revision, and he suggested that the basis of revision should not be limited to alteration of densities, but should give rein to all the practical knowledge gained in 14 years of post-war planning. 'I believe that this is a crucial moment because here is the opportunity to build a new structure instead of merely tinkering with the old,' he said.

'A great deal more should be done through the persuasive method of planning, but for this action to be effective the ordinary citizen must be kept informed of what is expected and required of him. Direction or coercion will not work, but a reasoned plan will be accepted by all those educated to it.' He thought that chartered surveyors engaged in planning would be given great support if they would tell the public what they wanted to do, and why.

High Price of Land

He did not agree that the high price of land necessarily stemmed from planning, although many critics were prone to allege that it was the planners' fault. 'In my travels abroad I have observed many instances where permission to develop could be secured over large areas but, not unnaturally, the population sought to live and work as near possible to the centres of prosperity, and the demand so created has increased the values of land in proportions not dissimilar to those which are now being experienced in the British Isles,' he said.

'In our small island we are feeling the great pressure of demand and supply aggravated by a 250,000 annual increase in population. The magnet for commercial and residential development is Greater London and the great provincial cities, where the planning authorities seek to allocate the precious acres while endeavouring to maintain a proper planned use of land. The development net is tight around many communities, with only the green belts now surrounding them—but demand is not satisfied, and the price of land increases.' However, he was certain that the green belts should be defined as firmly as other uses of land.

The Building Industry

'It is but a short step from the price of land to the building industry, which has a vital influence on the planning of land use,' the President continued. 'It happens that in our generation, buildings throughout the country by reason of their age are physically sick and functionally obsolescent, demanding their replacement on their existing sites or elsewhere; there is the further demand for building by the natural increase in our population and economy. Although capital investment at any given time is subject to short-term or long-term fiscal policies, I believe that the building industry, with the help of all those associated with it, will aim for increased productivity which will call for increased service by its professional consultants.

'Such factors as cost, new materials and methods of building in relation to the requirement for speed in building and in particular the inter-relation of capital and maintenance costs, must all form part of the service which a chartered quantity surveyor must be prepared to give. Cost advice, cost planning and cost control will be expected from the quantity surveyor as an important factor in the economic cost of building. Advice on design-cost alternatives and cost planning technique and the preparation of bills of quantities will not be enough; nothing less will be demanded than a complete service from preliminary and design stage through active co-operation at every stage to the speedy completion of the final account. It must not be a restful future waiting for the tide to bring in useful salvage and this is well recognised by the Quantity Surveyors Committee and the RICS Cost Research Panel which has manfully kept to its task during the last six years.

'The future will demand more research and a speedier dissemination of information and ideas to all practising chartered quantity surveyors; some knowledge of the results of this research would be of great value to other chartered surveyors who are concerned with the development of land.

'Research requirements must be planned and must take their place in the Institution's programme of contributing to the greater knowledge and experience of all its members.

'It would be of great interest to ascertain the inter-relation of cost of building and price of land. Would a lesser cost of the one contribute to a higher price of the other? We should learn more about this, but only painstaking investigation will produce results. Greater knowledge of this relationship could lead to more informed judgments being made on action which should be taken on particular projects.'

Care of Old Buildings

New Course for Architects

A TWO-YEAR COURSE for training architects in the care of old buildings was inaugurated at the London University Institute of Archæology on November 16 in the presence of the Right Rev. and Right Hon. R. W. Stopford, Bishop of London, the Very Rev. Seiriol J. A. Evans, Dean of Gloucester, and Sir Edward Muir, the Permanent Secretary to the Ministry of Works. The course has been established largely through the efforts of the Standing Joint Conference for the Recruitment and Training of Architects in the Repair of Old Buildings, of which the Dean of Gloucester, who is chairman of the Central Council for the Care of Churches, is also chairman.

In view of the Inspection of Churches Measure the Church is becoming increasingly conscious of the need for more men with specialised knowledge of the problems of repairing and adapting ancient buildings to meet modern needs. The new course will help to meet this need. Those attending it will already be qualified architects who wish to acquire specialised knowledge of old buildings. The course will provide two years' instruction divided between practical work in architects' offices and in the ancient buildings section of the Ministry of Works, the LCC and the Ministry of Housing and Local Government, together with lectures and tutorial work. It will lead to a diploma.

IQS

Election of Council

THE TWENTIETH ANNUAL GENERAL MEETING of the Institute of Quantity Surveyors was held recently at the Institute's headquarters, 98 Gloucester-place, London, W1. In the course of his presidential address, MR. C. E. SMART referred to the continued progress of the Institute and to the ever-increasing entries for the Institute's examinations.

The new Council is:

VICE-PRESIDENTS: H. T. Burke, R. K. Crouch, E. G. Cornish, H. G. Douglas, W. J. Martin, and R. Beswick Shaw.

EXECUTIVE MEMBERS IN COUNCIL: D. Bilham, J. Youdan Briggs, T. R. Carpenter, H. Fulford, J. Gregg, H. Vincent Mace, R. G. Paltridge, F. Smith, F. Biscoe-Taylor, R. E. Biscoe-Taylor, W. R. Turner, and R. D. Wood.

AREA MEMBERS IN COUNCIL: Area 1, E. E. G. Cummins; Area 2, T. G. Orange; Area 3, A. E. Bebington; Area 4, D. A. George; Area 5, D. Ransome; Area 6, J. Fogg; and Area 7, J. F. Hornsby.

Appeal for a Georgian Gem

MR. OSBERT LANCASTER is to make a broadcast appeal in the BBC's 'Week's Good Cause' series in the Home Service on December 3 on behalf of St. Peter's Church, Gayhurst, Newport Pagnell. This Georgian church is in need of extensive repair and the cost is estimated at £8,000. The total population of the village is only 57, so that outside assistance is urgently sought.

Specialists and Sub-Contractors

President's Plea for Closer Collaboration Within the Industry

THE ANNUAL LUNCHEON of the Federation of Associations of Specialists and Sub-Contractors was held at the May Fair Hotel, W1, on November 16, with the President, Mr. C. E. Rodgers, in the chair.

The toast of the guests was proposed by SIR WILLIAM HOLFORD, PRIBA, who spoke of the need to improve the quality and presentation of trade literature. Although slowly but surely the standard was, he believed, being improved, he would like to see bodies such as FASS and the building materials producers taking a direct interest in the problem.

Sir William also said that it was important to try to do something to reduce the time taken for the payment of final accounts. He believed that there was a lot to be said for negotiated contracts, but with this type of contract it was important to see if some means could not be devised of introducing an element of competition into the contract. Competition, he declared, was basic to the building industry, and somehow it had got to be preserved.

THE PRESIDENT, in his reply, said he would like to put forward one idea that he thought the Royal Institute might usefully pursue. 'I believe,' he said, 'that the industry might gain a lot in speed and cost of production if the architects, with their ideas on design, could be brought more closely in touch with the contractors' experience of the handling and assembly of components and with the manufacturers who know all—or at least some—of the answers on modern manufacturing methods.

'I should like to see the Royal Institute take the lead in setting up some standing body in which each of the interests I have named are associated, so that from this collaboration we get the components which the contractor can most usefully and efficiently handle, produced as economically and speedily as possible and as nearly as is practicable to the architect's ideas on design. A lot of ground I know has already been broken by the CLASP organisation and another similar body more recently formed. Without, however, detracting from the value of that work, I believe that the problems involved need to be tackled nationally and not locally.

'As our members know,' Mr. Rodgers continued, 'I have tried to take, as the theme of my years of office, the need for co-operation between the various sections of the industry and its related professions. Looking back, at first view, it might seem that there have been no real changes in my time: but I think that is wrong. If there has been little drama, there has, I am sure, been a silent, but remarkable, growth of better feeling between, and a drawing together of, the organisations comprising the industry.'

Referring to the Sundridge Park Conference which the London Master Builders' Association and FASS jointly sponsored, the President said how pleased he was that there were other conferences already being arranged to take place in the New Year. 'We took steps a fortnight ago,' he continued, 'to set up a special Standing Sub-committee of our Council charged with the supervision of all matters arising in connection with the preparation of these Conferences and with their reports. I don't think its members will find this job a sinecure.'

CLASP System for Italy

Primary School's Success at Milan Exhibition

THE BROCKHOUSE ORGANIZATION has announced that, as a result of the success of the CLASP single-storey primary school, exhibited by Great Britain at the 12th Triennale, held in Milan in 1960, this method of construction is now to be made available in Italy. The necessary conversion of dimensional data to metric measurements and modifications to suit local conditions has been completed by Costruzioni Modulari SpA of Milan, which is a subsidiary company of Brockhouse Steel Structures Ltd., of West Bromwich, who manufacture the prefabricated steel framework for the system.

School in the Alps

The first school to be built in Italy, on which work will be started in the near future, will be situated at the foot of the Alps at Biella some 40 km. north of Vercelli in the Piedmont region. It will include six classrooms and an assembly hall. The approximate cost of the project will be in the region of £50,000 and the work will be completed in four months. Negotiations are also taking place on the construction of a number of buildings next year.

Operating in a similar capacity to the consortium of local authorities in Britain, Costruzioni Modulari SpA, will obtain tenders on all factory-made components covering a year's programme of building, thus enabling potential users of the system to obtain the advantages of bulk ordering.

Production Control of Building

Conclusions from Recent BRS Research

A PAPER, published in the November issue of 'The Journal of Industrial Economics' describes some of the principles of the production control of building work with particular emphasis on the application of the Queue Theory and of simulation techniques. The work described, by Mr. J. F. Nuttall, forms part of the programme of research of the Building Research Board at the Building Research Station.

Mr. Nuttall reports conclusions to date from research. For effective production planning and control, he states, it is necessary to have an understanding of the mechanism by which the flow of production is regulated. Queue theory, although it may be unable to take into account the complexity of actual site processes, can help to give this deeper understanding. A quantitative assessment, on the other hand, of the effects on the production flow of the factors influencing it depends on the use of simulation. Further work in this field will involve simulation studies on a larger scale than is practicable with manual methods; consequently the use of electronic computers is currently being explored.

In actual building work, simulation should, Mr. Nuttall points out, find application in the choice of work sequences, gang sizes and organisational methods, especially for large contracts and repetitive work. It should also offer a method of training to give those responsible for site organisation an understanding of the underlying principles of production flow.

National Joint Council

Operatives Submit Claim for 'Substantial' Wage Increase

THE National Federation of Building Trade Operatives has submitted to the National Joint Council, under Rule 10(b) of the Joint Council's Constitution and Rules, Notices of Constitutional Amendment proposals having the following effect:—

(1) *Wage Rates*—a substantial increase in wage rates.

(2) *NWR 2—Working Hours*—normal working hours to be worked in five days throughout the year.

(3) *NWR 2—Meal Intervals*—substitution for the present para. 2 of the Rule of the following: 'In all cases there shall be a break for a mid-day meal at a time fixed by arrangement between employer and operatives on each site, job, or shop. This break shall not exceed one hour per day and shall not be less than half-an-hour.'

(4) *NWR 2A—Guaranteed Time*—payment of the full current hourly rate for all normal working hours during which an operative is available for work.

(5) *NWR 2B—Termination of Employment*—after the first six working days at least one week's notice to be given by either the employer or the workman to expire at normal finishing time on the Friday.

(6) *NWR 3A(g)—work in swings, cradles, etc.*—increase in the extra payment from 2d. to 6d. per hour.

(7) *NWR 3E*—painters and painter apprentices to have a tool and overall allowance of 3d. per day.

(8) *NWR 3E(d)*—removal from the list of tools required to be provided by plasterers of the 'stock brush.'

(9) *NWR 6A—Daily Travelling*—payment for travelling time to be made in respect of journeys both to and from jobs.

(10) *NWR 1(h)—Qualified Benders and Fixers and Tubular Scaffolders*—the wage rate for these categories to be raised to the craft rate.

(11) *NWR 1(f)—Watchmen*—a substantial increase in shift rates of pay.

(12) *NWR 1(l)—Female Operatives*—restoration of the fixed differential of 4d. below the standard rate for women as the means of determining the wage rate of women engaged on work other than craft processes.

(13) *London Daily Travelling Rule*—abolition of the special rule affecting operatives regularly employed at factories and shops coming within the ambit of the Supplementary Rules for Woodworking Factories and Shops.

(14) *Manchester Daily Travelling Rule*—reduction from two miles to one mile in the radius of the No. 1 'free area.'

Evidence from both sides in regard to these Notices will be heard at the Statutory Meeting of the NJC on January 10, 1962.

The Week in Parliament

From Our Own Representative in the House

Research and the Building Industry

GIVING examples of where research and development had been of tremendous value, VISCOUNT CALDECOTE, who initiated a debate on technical and scientific manpower and research, said in the Lords on November 15 that in the building industry, work done at the Building Research Station was estimated to have saved £300m. in the past 12 years in the school building programme by using new methods of design and construction.

VISCOUNT HAILSHAM, Minister for Science, stated that tower cranes which had now become such an established and familiar feature of the landscape, had been introduced into the country directly as a result of the work of the Building Research Station. In surveying British engineering and British industry as a whole, the Minister saw two great needs. The first was that British industry should be based on advanced technology so that it might keep abreast or ahead of its main competitors. Second, traditional craft industries should no longer continue to be craftsman-based, but should employ technologists with a more flexible outlook who would keep a continuous watch for new ideas worth applying.

Lord Hailsham said they had never heard him advocate the use of the strike weapon and he did not do so now. But he would be a great deal less depressed about the future of British industry were he to read that shop stewards had called an unofficial strike because too little was being spent on research and development than he was when he read about tea-breaks and demarcation disputes. There could be no quicker way of stimulating management out of what might be sometimes its complacency than for workers to take the lead in demanding a more advanced technology.

What was wanted was for businesses of all sizes to realise the importance of research to themselves, research not merely into science and engineering but into the human and operational problems involved in production.

Need for a Channel Link

A RAPID DECISION on the proposed Channel link—either a tunnel or a bridge—was urged upon MR. ERNEST MARPLES, Minister of Transport, on November 22. Questioners favoured the tunnel project, SIR BARNETT JANNER pointed to recent boat delays through bad weather.

MR. MARPLES said he had had useful discussions about a Channel link on November 17 with the French Minister of Public Works and Transport and reached agreement with him about the next steps to be taken on the proposals now before their two Governments for the construction of a tunnel or a bridge. Many aspects of these projects required further joint study and this was to be undertaken by officials of both countries.

MR. GRESHAM COOKE sought confirmation that this technical study would go ahead seriously and quickly because private enterprise was ready to finance and to build the Channel tunnel without any recourse to public funds. Maritime interest thought a bridge was not possible.

MR. MARPLES, after commenting 'That may be so,' said the joint study would go ahead as fast as possible.

MR. WILLIAM TEELING said that for nearly three years a study group had been working on this, largely started by pressure from a Parliamentary Committee of over 100 members. The study group had spent over £500,000 on the possibilities of either a tunnel or a bridge and having worked it out, had decided that a bridge was not possible. Would the Minister use what information had already been obtained by the Committee and save a lot of time and trouble?

MR. MARPLES promised that the information given by the Committee would be used by the joint study group but a lot of questions would be asked on separate aspects—legal, economic, financial and so on. But it would be wrong if they omitted from their considerations and calculations evidence presented only in October on a Channel bridge. There again many detailed considerations would have to be gone into.

Motorway Construction

IN ORDER to expedite the construction of cross-country long-distance motorways, the Minister of Transport was asked on November 22 if he would authorise them to be developed by private enterprise and local authorities jointly, the capital required being serviced by tolls where the necessary finance was forthcoming.

During the exchange of questions, MR. MARPLES said the limiting factor was not so much cash but the resources of industry, especially skilled men. 'What has disturbed me recently,' he declared, 'has been the reduced number of bids we are getting when we put out schemes to tender and also that prices are very much higher, indicating that the resources of the industry are stretched to the utmost.'

The toll motorways suggestion was made by MR. EDWARD DU CANN and in reply the Minister said: 'This is an interesting suggestion. Legislation would be needed to enable tolls to be charged. I feel sure too that Parliament would wish to consider very carefully any proposal to allow local authorities to use for the profit of private interests the powers given them to construct motorways, including the right to acquire land compulsorily and to close private accesses. In any case it is doubtful if proposals on these lines would expedite the provision of long-distance motorways, in view of the extent to which civil engineering resources are already very heavily committed.'

MR. LESLIE HALE asked what was the cost per mile of the construction of M1 to its present boundary; and what was the estimated cost per mile of the extensions now under construction.

MR. MARPLES wrote: 'The average cost of the length of M1 already constructed, including land, was approximately £407,000 per mile. The estimated average cost per mile, including land, of continuing this route, as motorway M6 from Dunston to Preston Bypass, is approximately £699,000. There have been general rises in tender rates. The figure also reflects the cost of three major viaducts, poor soil conditions along part of the route, and improved standards embodied in the design.'

Second Reading for Housing (Scotland) Bill

A REQUEST to the Government to do a little more in the way of research into new techniques of building and new methods was made by the EARL OF DALKEITH, an Edinburgh MP, when the Commons gave a second reading, on November 22, to the Housing (Scotland) Bill.

The Earl of Dalkeith wondered if Britain was doing quite as much as it might be able to do by borrowing ideas from abroad—ideas which had been successful—and passing them on to the industry. Prefabrication was an example. There were many ways in which they might make the building industry more efficient than it was, particularly compared with the industry in some of the Scandinavian states and also the United States. He wondered if the Government could aid research, either directly or by giving assistance to private builders to carry out research. He also wanted the Government to look into the whole question of labour in the building industry and see specifically if they could help by introducing some form of Government-sponsored apprenticeship scheme.

In commending his Bill, MR. JOHN MACLAY, Secretary of State for Scotland, said that, if the present situation called for a redistribution of subsidies, it also demanded that they should make use of all available building agencies. Between 1945-60 only 10 per cent of houses built in Scotland, compared with 36 per cent south of the Border, were built by private enterprise. Most disappointing of all had been the virtually complete lack of building for letting.

That was the background to his proposal that Exchequer advances should be made available to housing associations which were building for letting at economic rents or for 'joint ownership' on the pattern which had been so successful in Scandinavia. Public and private house building were not mutually exclusive. They could, and should, be complementary to one another.

The Bill, he said, changed the basis of the subsidy for high flats. They had learned a lot about the costs of high building, enough to allow them to pay the subsidy as a fixed additional amount instead of on a complicated formula related to the cost of each individual project. There would also be a new subsidy for houses built on expensive sites.

All the new subsidies would be payable for houses for which tenders or estimates had been received in his department

on or after November 1 this year and would as before be payable for a period of 60 years although under the Bill he was giving notice of the possibility that subsidies might be adjusted at some time during that period. This power could not be used until 10 years had elapsed from the passing of the Bill.

Opposition members unsuccessfully pressed to a division an amendment to reject the Bill which they considered 'fails to deal with the problem of interest rates or to provide the local authorities and other public agencies with the means greatly to increase the supply of houses in Scotland, gives excessive discretionary power to the Secretary of State, and exposes the local authorities to financial uncertainty.'

The Secretary of State is also getting an extension to his power to make contributions in respect of building experiments and MR. CYRIL BENCE said many MPs were anxious for an intensification of experimentation in new techniques and the general organisation and planning of house building.

Other Business

Crash Barrier on M1

MR. RONALD RUSSELL asked the Minister of Transport, on November 8, if he would have a railing or wall built along the centre strip of motorways, possibly combined with an anti-dazzle fence, to prevent cars out of control from crossing it and endangering traffic on the opposite carriageway.

MR. ERNEST MARPLES wrote: 'I do not consider that the provision of a crash barrier in the central reservation of motorways would be justified at present. The benefit of such a barrier would lie in preventing collisions with vehicles on the opposing carriageway. There have, in fact, been very few such accidents. During the first year of operation of M1, two people were killed in accidents of this type. Study of accidents on M1 and experience of crash barriers abroad indicate that a central barrier might well cause more accidents than it prevented, although they might not be of such a serious character.'

Day Release and Tendering

MR. BRUCE MILLAN asked the Secretary of State for Scotland on November 8, if he was aware of the decision of Glasgow Corporation to ask contractors tendering for building work valued at £10,000 or over to supply details of their apprentices attending day-release classes so that it could be determined whether they were properly fulfilling their obligations for apprentice training: and if he would ask other local authorities and public bodies to do the same so as to encourage increased use of day-release facilities.

MR. J. S. MACLAY: 'This is a suggestion which has been made to a Committee of the Scottish Technical Education Consultative Council and I would prefer not to anticipate their report.'

MR. MILLAN asked if the Secretary of State considered this a very effective if simple way of encouraging day release. Why should they have to wait for a report ?

MR. MACLAY said there were arguments on both sides. There was some doubt whether a practice of this kind would, normally speaking, be consistent with the general rule that contracts should be awarded after open competition. It was not so simple as it appeared at first sight.

Preservation of Historic Buildings

MR. ARTHUR SKEFFINGTON asked the Minister of Housing and Local Government on November 16 if he was satisfied with the existing machinery for preserving buildings and groups of buildings of both architectural and historical interest; and what steps were taken to prevent deterioration in buildings subject to a preservation order.

MR. GEOFFREY RIPPON, Parliamentary Secretary, wrote: 'The Minister is satisfied that the listing of buildings of special architectural or historic interest ensures an adequate opportunity for the local planning authority and for him to consider whether proposed works of demolition or alteration should be prevented by the making of a building preservation order. The owner of a building subject to a preservation order cannot be compelled to keep it in good condition, and the only remedy may lie in purchase by a public authority. But if the owner finds the cost of repairs and maintenance too high a contribution from public funds may be made available to encourage him to secure proper preservation. Sometimes the local authority have proved able to help, or the building may be eligible for a "historic buildings" grant by the Minister of Works if it is of outstanding architectural or historic interest.'

DR. BARNETT STROSS asked the Minister of Transport on November 15 whether he would set up an independent committee to advise him on the problems arising, as a result of the redevelopment of railway properties, from the threat to monuments of historical or artistic value such as the great portico at Euston station.

MR. ERNEST MARPLES wrote: 'No. Such monuments are covered by the provisions in the Town and Country Planning Acts for the protection of buildings of special historic or architectural interest. There is already an independent Committee which advises the Minister of Housing and Local Government on this subject.'

FLEUR-DE-LYS REDEVELOPMENT, KETTERING.—*A perspective of the scheme prepared by Mr. H. Owen Luder, ARIBA, for a supermarket and two shops. The curved vaulted roofs are formed with concrete reinforced with 'Hy-rib' and the price, it is stated, has worked out very economical. The quantity surveyors are Messrs. C. R. Wheeler & Partners, of London; the builders, William Moss & Son, Loughborough; and the clients, London and Provincial Shop Centres Ltd., London*

Computers and Traffic Flow

MR. CLIVE BOSSOM asked the Minister of Transport on November 13 if he would introduce an electric computer to help work out the flow of traffic in London.

MR. ERNEST MARPLES wrote: 'An electric computer will be used to analyse data on traffic flow for the comprehensive survey of London's traffic now being made by consultants on behalf of my Department and the London County Council. I am also investigating, with the Road Research Laboratory, the possibility of using a computer for the continuous processing of traffic data to permit the co-ordinated control of traffic over large areas.'

Methane Trunk Main

MR. RICHARD WOOD, Minister of Power, said on November 13 that he had given no general directions to the Gas Council concerning the distribution of imported methane gas. MR. A. ROBERTS asked whether, when this distribution took place, it would have any bearing on the installation of Lurgi plants and, if so, whether there was danger of this leading to wasteful capital expenditure. MR. WOOD said the plans for distributing this gas were to take it by trunk main across the centre of England to the North-West. It

would therefore pass very close to the present Lurgi plant at Coleshill, near Birmingham, and no doubt if the Lurgi study group showed that the process was fully economic a plant would be built somewhere in that area where methane would be available to enrich the lean gas made by that process.

Acquisition of Theatres

After announcing an additional £150,000 Government aid for provincial theatres, which will go to revenue expenditure, MR. SELWYN LLOYD, Chancellor of the Exchequer, was asked on November 14 if he was prepared to consider sympathetically applications from local authorities who wished to acquire theatres which were threatened by site developers. The Chancellor answered: 'I will certainly consider that.'

BTC and Design of Buildings

MR. LEAVEY asked the Minister of Transport on November 14 to give a general direction to the British Transport Commission that they should, in considering the design of new buildings and equipment, under the reorganisation plans, seek the help of the Council of Industrial Design.

MR. ERNEST MARPLES wrote: 'No. This is a matter for the Commission. I understand that where appropriate they consult the Royal Fine Art Commission in architectural matters of major importance. They are in close touch with the Council of Industrial Design over the design of equipment.'

Publication of Tenders

MR. LIPTON asked the Chancellor of the Exchequer on November 14 if, by legislation or otherwise, he would require all government departments and nationalised boards inviting tenders to publish the names of tendering firms and the totals of each tender.

SIR EDWARD BOYLE, Financial Secretary to the Treasury: 'The practice of nationalised industries in this matter is the responsibility of the boards themselves. As regards Government Departments, the Chancellor is not prepared to issue a general direction of this kind.'

MR. LIPTON urged the Financial Secretary to be 'willing to come clean' on this matter. Would it not inspire greater confidence that everything was fair and above board if the details for which he had asked were published in all cases where public money was involved? How on earth was the public to know whether these tenders were really competitive unless these details were published? What had the Government got to hide?

SIR E. BOYLE: 'I am satisfied that this is a matter which must be left to Departments to decide in the light of the various circumstances of Government contracts. If Mr. Lipton would like to correspond with me or to see me about the matter I shall be prepared to discuss it with him further.'

Certificated Houses

MR. FRANCIS NOEL-BAKER asked the President of the Board of Trade on November 21 if he was aware that certificates were being issued, in relation to buildings, purporting to be of an official nature and to guarantee the quality of the building; and if he would introduce legislation to control the issue of such certificates.

MR. F. J. ERROL wrote: 'I am aware that certificates are being issued by the National House-Builders Registration Council, a body which I understand to have been approved for the purpose of Section 5 of the Building Societies Act, 1939. On the general issue of controlling seals of approval, I propose to await the advice of the Committee on Consumer Protection.'

Capital Gains from Land

Tackled about his forthcoming legislation regarding a tax on short-term speculative gains on property and share deals, MR. SELWYN LLOYD, Chancellor of the Exchequer, was asked on November 21 if he would make the tax retrospective to the date of his original announcement. But the Chancellor refused to be drawn further, saying it was better not to anticipate what the provisions would be. The legislation would be produced in the next Budget, if not before.

MR. J. T. PRICE urged the Chancellor to take into account 'the enormous amount of social damage which is being done by holding on to large blocks of land for speculative purposes round every large city.' He requested the Chancellor to make some assessment of the amount of land being held in anticipation of speculative gains and to bring this within the terms of his fiscal remedy. MR. LLOYD merely replied that all relevant matters were being considered.

Skyscrapers and Flying Needs

LORD BOSSOM asked the Government on November 21 whether official consultations had taken place between the Ministry of Aviation and the Ministry of Housing and Local Government, and regulations been agreed upon as to desirable locations and heights for skyscrapers being constructed now and in the future to ensure that they should not be a menace to aircraft at times of dense fog.

LORD DENHAM replied: 'Long standing arrangements exist with the MoHLG whereby the Ministry of Aviation or the owner of the airfield is consulted on all proposals for putting up buildings over certain heights in the neighbourhood of airfields. There are also regulations governing the height at which aircraft may fly outside these areas. In addition, at the request of the MoHLG, local authorities notify the Ministry of Aviation of all new buildings over 300 feet so that pilots may be informed and warning lights fixed if necessary.'

Development of Rail Termini

MR. KENNETH ROBINSON asked the Minister of Transport on November 22, what plans the British Transport Commission had for the major redevelopment of the sites of London rail termini.

MR. ERNEST MARPLES: 'I understand from the British Transport Commission that they have at various stages of consideration the redevelopment of all suitable main line termini in London. Work is proceeding at Holborn Viaduct and Cannon Street Stations.'

MR. ROBINSON asked whether this redevelopment would be done by the Transport Commission or, as reported, in conjunction with the Clore-Cotton enterprises. If private speculators were to be allowed to share in the profits of developing publicly-owned sites, profits which should go to public corporations, the Opposition would take a very dim view.

MR. MARPLES explained that this was a question of two developments—first, those solely necessary for the development of railways which the BTC could do itself. But at present under the 1947 Act the Commission could not do the next kind of development, which was commercial development, and it was forced by the 1947 Act to go to speculators for that sort of development. The Transport Bill removed that grievous disability and in future if the Bill became law the Commission would be able to do these developments itself.

Location of New University

The fourth new university is to be at Lancaster, MR. HENRY BROOKE, Chief Secretary to the Treasury, announced in a written reply on November 23. He said that the Government had accepted the advice of the University Grants Committee who had considered a number of possibilities with great care.

Points from Replies

'I will make arrangements to publish the results of the work of the University Grants Committee in the field of standard costs, as recommended by the Committee of Public Accounts' (*Financial Secretary to the Treasury*, November 10).

'I am not satisfied with the present arrangements for viewing the Crown Jewels at the Tower of London. Plans for a new jewel house have reached an advanced stage, but I fear there is little hope of being able to include provision for this in the Estimates at present' (*Minister of Works*, November 14).

'The President of the Board of Trade will continue his efforts to steer new industry to development districts including those where there are to be pit closures.' (*Board of Trade*, November 14).

Royal Society of Health

Building and Estates Subjects Group

AT THE inaugural meeting of the Building and Estates Group of the Royal Society of Health, held at its headquarters recently, the following officers were elected:

Group chairman; Mr. H. E. Gilby (surveyor, Hertford RDC); honorary group secretary: Mr. J. N. Matson (engineer and surveyor, Egham UDC); group committee members: Mr. Donald A. Goldfinch, FRIBA, Mr. Donald N. Emsley (auctioneer and estate agent), Mr. A. Ewart Steevens (builder), Mr. Bernard G. Phillips (building surveyor), Mr. Laurence E. Oliver (mechanical and electrical engineer), Mr. Harry L. Egerton (plumbing), Mr. George H. Matzen (technical education), Mr. John H. Carter (area planning officer, Buckinghamshire CC), and Mr. Stanley E. Williamson (valuer).

Firm Prices for Materials and Services

Sixth List of Manufacturers Willing to Quote Over a Period

The sixth list of specialists, sub-contractors and manufacturers willing to quote firm prices over a period is printed below. Earlier lists appeared in 'The Builder' of October 27 and November 3, 10, 17 and 24. Other firms prepared to quote should write to the Editor, 'The Builder,' 4 Catherine-street, Aldwych, London, WC2, giving the names of their products and the period over which they are prepared to hold quotations.

Architectural Metalwork

DENBAR CONSTRUCTION CO. LTD., Denbar Works, Southend Arterial-road, Gidea Park, Essex.

PERIOD: 24 months from date of offer.

PRODUCT: Architectural metalwork, balustrading and wrought ironwork.

Damp-Proof Courses

MIDLAND DAMPCOURSING CO. LTD., 45 Wyle Cop, Shrewsbury.

PERIOD: By arrangement.

PRODUCT: Specialists in the insertion of damp-proof courses to existing buildings.

COMMENT: Firm prices are given on all contracts.

Joinery

B. F. COLLINGRIDGE LTD., Belvedere Works, Southend Arterial-road, Gidea Park, Essex.

PERIOD: 18 months from date of offer.

PRODUCTS: purpose-made joinery specialists.

Reconstructed Stone

CLARINCRETE PRODUCTS LTD., 69 Victoria-street, London, SW1.

PERIOD: 6 months.

PRODUCTS: Reconstructed stone and precast concrete.

COMMENT: Contracts for longer periods quoted by negotiation.

Reinforced Concrete

CAXTON REINFORCED CONCRETE LTD., 45 Bedford-row, London, WC1.

PERIOD: 18 months subject to acceptance within three months of offer.

PRODUCT: Design and construction of reinforced concrete framework, including foundations, structural floors and roofs.

COMMENT: This company is always willing to quote on a firm price basis where information can be given as to the extent of the contract with anticipated dates for completion and where some assurance can be given that all relative information will be available in sufficient time to enable pre-planning of work in accordance with MoW recommendations.

Bribery and Corruption

Two Cases in the North-East

MR. RONALD PARKER, aged 46, of Rock Mount, Hoyland, near Barnsley, formerly assistant housing manager at No. 5 area headquarters, north-east region, National Coal Board, responsible under supervision for letting contracts for repairs to property damaged by mining subsidence, was given a conditional discharge for twelve months at Sheffield Assizes on November 22, after pleading 'Guilty' to three charges of corruption. The prosecution alleged that Parker took five per cent of the contract price and spent it on comforts for his sick wife. The total amount obtained was less than £150.

In another court Mr. Joseph William Newbold, aged 52, of The Wheel, Ecclesfield, the area housing manager, had been found 'Guilty' by a jury of obtaining home equipment from a plumbing contractor as a reward for showing favours. It was said that he had bathroom and kitchen equipment fitted into his house and not to have paid for it.

MR. JUSTICE NIELD had postponed sentence on Parker. He said he would not send him to prison, but the public were entitled to know his reasons in a case of such gravity. The judge gave these as the fact that Parker held a subordinate position, the bribes were not such as were normally understood as bribes, and Newbold had already suffered great hardship through such results as loss of pension.

Direct Labour, Warwick

Force Established at Lower Level

WARWICK GENERAL PURPOSES COMMITTEE resolved at its meeting on November 22 to recommend to the Town Council that the direct labour force should be established at a level compatible with building commitments. The recommendation was passed at a meeting specially convened to consider the future of the force which has been reduced in the past month from 56 to 34 employees.

Socialist members of the council argued that the decision would mean breaking faith with employees but the recommendation was agreed after considerable discussion during which it was stated that the direct labour force no longer had sufficient work to occupy it fully. The committee rejected a proposal by COUN. W. NOCK that the force should be retained at the present level of 34 and that more capital works should be put into operation to keep it employed. COUN. W. TARVER said: 'The Ministry has said that 75 per cent of capital works must be put out to tender. There is a limit to the extent to which people can be expected to carry burdens and I think that limit has been reached.'

Roofing Contractors

National Federation's Annual Banquet

THE CLOSE ties that had existed between the NFBTE and the National Federation of Roofing Contractors were praised by MR. L. J. HOLLOWAY, FIOB, senior vice-president, NFBTE, when he spoke at the annual banquet of the NFRC in London on November 21. Nothing but benefit could result from a close association, said Mr. Holloway, who was proposing the toast of the Federation.

Replying to the toast, MR. C. P. WILLIS, president, reiterated Mr. Holloway's views on closer ties. In the past there had always been problems and differences between the two, but they had invariably been amicably settled. Of the Federation's strength in the industry, Mr. Willis said: 'I am sure that between us and the Federation of Associations of Specialists and Sub-Contractors we carry a lot of weight with the professional bodies, such as the RIBA and RICS, when putting our views.'

He then urged members to keep up to date with new materials and techniques, as the future depended on it. At the moment the Federation was not affected by the Chancellor's Budget, nor by his subsequent actions. There seemed to be plenty of work available in the foreseeable future. On the Common Market, he thought that the whole industry would benefit by entering, although it would have to 'keep on its toes' and be prepared to meet fierce competition.

Another speaker, MR. R. WRAGG, senior vice-president, NFRC, inveighed against the Government for its 'turn on, turn off' attitude towards the industry. Of all industries, building appeared to be the most vulnerable.

At the annual meeting held the following day (November 22) the Federation elected MR. WRAGG president and MR. C. E. ELLIOTT senior vice-president.

Assistance for Belize

UAM ASBESTOS SHEETS have been sent to Belize to help in the rehabilitation of British Honduras by the Belize Estate and Produce Co. Ltd., one of the Gliksten group of companies.

Electricity Booklet

A REPORT has been published by the Building Research Station (HMSO: 3s. 6d.) setting out the main economic principles governing the large scale distribution and supply of electricity to factories. Entitled 'Electricity Supply and Distribution,' it has been written by A. G. Aldersey-Williams, MArch (MIT), ARIBA.

Four Conversation Pieces

3. With an Apprentice

THANKS, SONNY, that looks a good cup of tea.

All the men in the works say it is the best tea they have had for years.

What do you do when you are not making tea ?

I'm an apprentice.

Where ?

In the joinery shop.

Like it ?

Oh, I suppose it's all right. I shall be glad when I've been here a year.

Why's that ?

They take on one apprentice each year and the youngest in the shop has to sweep up the chips, make the tea and run all the errands.

Why did you pick joinery ?

I liked woodwork at school and Dad's a setter out. Anyway, I shouldn't like to be out on a site this weather.

How long have you been here ?

Three months.

What have you learned ?

To take bits of timber off the back of the rip, but that's not much use, anyone could do that.

But you go to school every Friday.

Yes, that's good, that is.

You like it ?

Yes, we learn something there.

'Sitting Next to Nellie'

Don't you think you learn anything here by watching it done ?

No, our teacher at the 'Tech' says that way is old fashioned—they used to call it 'sitting next to Nellie.'

But you can't expect to walk out of school straight into a joinery shop and start using expensive machines.

Have you seen the machines in our shop ?

Yes, and some of them are expensive.

Would you say that cross-cut was expensive ?

No, why ?

Our teacher says pendulum cross-cuts went out before I was born and now you only find them in a museum.

But that is the exception.

But one day they will teach me to use that. My mate is in a shop where he just has to put his foot down and the machine does the rest. He says that way you can use both hands to do the work.

By the time you get around to using the cross-cuts they may have one like that here.

Don't you believe it, mister, the guv'nor won't buy them a barrow to bring the timber in from the stack.

How do you get it in ?

We all have to go out and carry it in. It ain't half heavy.

What is the sawyer doing while you are carrying it in ?

He's up on the stack sorting out the lengths he wants. You should hear his language. The bits he wants are always at the bottom. Dad says he should sort it into lengths when it comes in and then stack it.

Why doesn't he ?

Search me—he says it would take too long, he's always done it this way, he shouldn't have to do it anyway because it's a labourer's job, the boss wouldn't let him, it's too radical a change and another firm tried it once.

Where do you put it when you bring it in ?

On the floor, where else could you put it ?

Where do you put your off-cuts?

If they are any size, we stand them against the wall.

You must have a nice job sorting out the pieces you want from them.

We never want pieces from them, much quicker to get a new piece from the stack.

How do you get on with the sawyer ?

All right, he's not a bad chap, always helps me to carry the stuff to the next machine.

When you have carried the stuff to the next machine, where do you put it ?

On the floor, if there is room.

Supposing there is no room for it ?

Well then I have to shift something to make room.

Does the sawyer help you with that ?

Sometimes, but it's usually the bloke on the other machine. The sawyer makes the excuse his lumbago is bad. Says he's been bending down 50,000 times a year for the last 15 years. Why do they call lumbago the 'builder's disease' ?

I expect it's because they all have to do a lot of bending. The bricklayer for his bricks, joiner for his timber, even the plumber has nearly all his pipes near the floor.

Do plasterers get lumbago, mister ?

I don't know, but it's a pretty heavy job. What do you want to be after you've finished your apprenticeship ?

I'm going to have my own joinery works.

What, straight away ? You will only be 19.

Not straight away; I'll have to save some money first.

Well, what will you do when you are 20 ?

I'll be a joiner for about two years.

After that ?

I think I'll go to another firm where they have some up-to-date methods. My mate says that in his shop nobody has to carry timber about, it's all on trolleys. Besides you earn more money there.

A Bunch of Squares

How do you earn more money?

My mate says that when the foreman gives you a job he says you have got ten hours to do that lot. If you do it quickly, he has a good look to see you've done it proper and then gives you a bonus.

Why don't they do that here ?

I don't know, but you've seen them. A proper bunch of squares they are.

Your Dad as well ?

Well, he's not so bad as some of them, but he thinks rock 'n roll is shocking, says I should learn to waltz. You try putting jazz on in our house and see what happens. I go to the youth club most evenings. But there, Dad's an old man.

Surely not all that old.

He's getting on for 40, that's pretty old, ain't it ?

It depends from where you are looking. To come back to your career; what will you do after that ?

It'll depend. If my mate and I can save up enough, we'll open a workshop. We could buy a 'Universal' cheap and my mate's father has a garage he doesn't use.

But you will want lots of things besides a 'Universal.'

By that time we shall both have our tool kits. I make Dad buy me tools at Christmas.

How will you get your work ?

We will be able to do it cheap and you can always get work if it's cheap. We won't have to pay a foreman for doing nothing. We'll do high-class joinery though. Nice stuff, in oak and teak.

The Foreman's Task

You say the foreman 'does nothing' ?

Well, he don't actually do nothing, but he makes it hard work. When you want a job you have to go to him and he hunts through all his papers and nine times out of ten he has to go to the big office for his drawings. Then you have to hang about while he makes out a cutting list. Whenever I go to him, he just says 'sweep up those chips.'

What would you do in his place ?

I'd find out what wanted doing tomorrow and first thing in the morning I'd go to every bloke in the shop and say 'that's your work for today.' If it wasn't done I would want to know why. I'd do that every day and have nothing much to do all day.

It might be easier to be a foreman than to start your own shop.

Not me, I'd be bored stiff. Besides, I couldn't stand all those bosses coming round and saying, 'Jones, you haven't mended that chair I brought in yesterday; Jones, where is that carcasing timber for so-and-so ?' Far too many bosses around here. Every general foreman thinks the place is run for his benefit. Come in here and chuck their weight around. 'I must have this today.' Pity they didn't think about it before. Better go now, before they start work again. By the way, what's your job, mister ?

I'm a consultant, why ?

Must be a nice job; just walk around and ask people questions. Maybe I'll become a consultant and not bother about my own shop. My girl is always saying joinery is messy and that I smell of glue.

C. A. FRANCIS.

Film of IUA Building

THE STORY of the preparation and construction of the IUA headquarters building has been made into a colour film by Cape Building Products Ltd., Cowley-bridge-works, Uxbridge, Middlesex. It lasts for 30 minutes and shows the preparatory work by the artists concerned, the preparation of the 'Asbestolux' components, and the erection of the building.

Hammersmith Flyover Opened

Advantages and Economies of Design

WHAT WAS DESCRIBED BY MR. MARPLES, Minister of Transport, as 'The nicest flyover I have seen in the world' was opened on November 16 by Mr. Harold Shearman, MA, JP, chairman of the LCC. In his speech MR. SHEARMAN said that the £1¼m. flyover, which is part of the development of the Cromwell-road extension, had been designed to reduce the area of dead ground underneath. This resulted in a saving of £150,000 on demolition and land acquisition. The flyover had originally been designed, soon after the war, as a reinforced structure, but the use of prestressed concrete had enabled a large proportion of the flyover to be built away from the site, allowing traffic to flow around the congested site. Mr. Shearman congratulated the contractors on completing the contract two weeks ahead of schedule, and thanked all those concerned for their co-operation.

MR. RICHARD EDMONDS, chairman of the LCC roads committee, who presided, compared the flyover as a symbol of the present day with the Menai and Forth bridges as symbols in the 19th century of the railway age. MR. MARPLES considered that the design and performance had marked a new era. Referring to London's traffic in general, he said he intended to continue the policy of experimenting with schemes for limited periods before finally approving them.

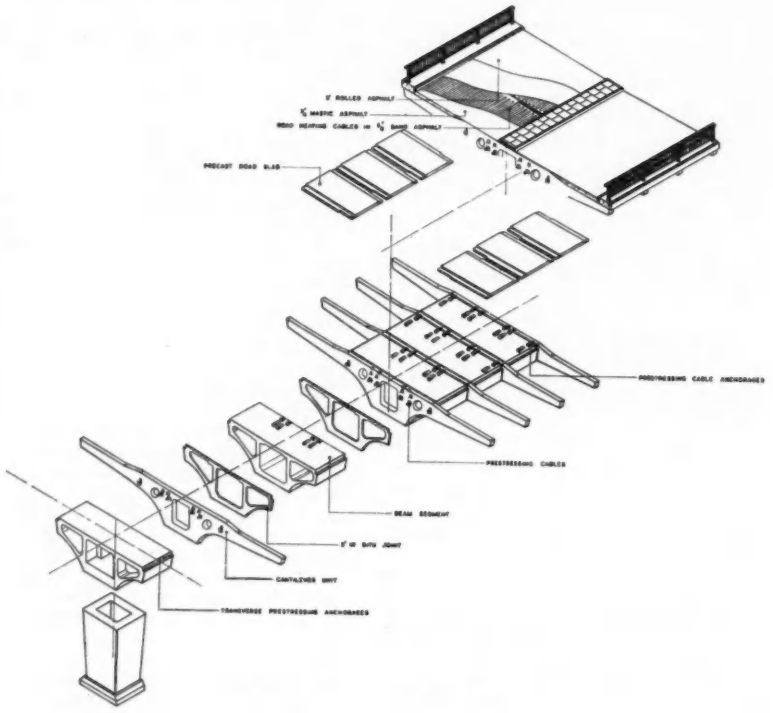
The Construction

The flyover, which is 2,831 ft. long and 61 ft. wide with dual carriageways of 24 ft., is a prestressed concrete structure arranged in 16 spans. It is formed to a large extent of precast units with column foundations of simple reinforced concrete spread footings. The minimum clearance over the six road crossings is 16 ft. 6 in. In addition to the flyover various road works have been carried out.

The main structural element is a continuous hollow spine beam 26 ft. wide, varying in depth from 6 ft. 6 in. at mid-span to 9 ft. at the supports. Reinforced concrete cantilever units act as diaphragms for the spine beam and their outer arms support the precast reinforced concrete roadway slabs. In situ concrete edge beams complete the load-carrying superstructure and form the outer footways. The concrete columns, cast in situ, are connected to the spine by vertical prestressing bars. There is one expansion joint which is 811 ft. 6 in. from the western end. The approach ramps consist of compacted fill between reinforced concrete retaining walls and have a gradient of 1 in 20.

To prevent icing the entire road surface can be electrically heated by cables embedded in the surface, which are automatically controlled to ensure that they are only brought into operation in conditions when ice can form. It was necessary to provide a safety fence capable of preventing vehicles out of control running off the flyover. A Swedish design was adopted which had been subjected to tests in which it successfully stopped a single-decker bus, loaded with concrete blocks as ballast, weighing 15 tons, travelling at 30 mph and running head-on and at 45 degrees into the fence.

The consulting engineers were G. Maunsell and Partners in conjunction with Mr. J. Rawlinson, CBE, MICE, and Mr. H. Bennett, FRIBA, chief engineer and architect, respectively, to the LCC. The contractors were Marples, Ridgway and Partners Ltd.



Above: Exploded isometric of construction (by courtesy of the Cement and Concrete Association). Below: View from ground level

Direct Labour at Stoke Newington

Investigation Reports on 'Unrealistic Tender'

A TENDER PRICE of £255,000 put in by the Direct Labour department of Stoke Newington borough council for the erection of 72 flats and four houses at Lordship-lane was described by witnesses before an investigating committee variously as 'competitive but realistic for a normal standard of work' and as 'obviously unrealistic.' In the event, the final cost was £316,048 and the period quoted for the work, 16 months, was exceeded by 17 months. The department's tender was the lowest of 12 prices, the next lowest being £280,534 from a private builder who quoted no completion date.

The investigating committee was appointed in May last, under the chairmanship of Cllr. S. Kalman, LLB, 'to investigate the excess expenditure of the Lordship-road housing scheme, to report on its findings and to recommend such steps as it may consider appropriate as to the future.' The report, covering the first part of the terms of reference, was laid before the full Council on November 22, and is now given in full.

The Report

1. The scheme in question comprised a 7-storey block of 49 flats, three 4-storey blocks providing 72 flats and 4 houses. The contractors were the direct labour force. It was the biggest contract which had ever been undertaken by the force, and the only multi-storey block which had been constructed by the force in a reinforced concrete frame.

2. The following is the list of tenders submitted to the Council:

Tenderer	*Tender price* £	*Period quoted for completion of work*
Direct Labour Force	255,000	16 months
Tender No. 2 ...	280,534	None given
,, No. 3 ...	282,200	30 months
,, No. 4 ...	285,378	None given
,, No. 5 ...	286,209	24 months
,, No. 6 ...	287,547	None given
,, No. 7 ...	287,900	None given
,, No. 8 ...	298,685	None given
,, No. 9 ...	306,501	None given
,, No. 10 ...	310,790	None given
,, No. 11 ...	311,237	None given
,, No. 12 ...	313,219	None given

3. In December, 1955, the council accepted the direct labour force tender, subject to the checking of the bills of quantities, the receipt of loan sanction and any necessary consents. The bills of quantities which form the basis of the tender were examined by the quantity surveyors, as is the usual practice, and in January, 1956, the report of the quantity surveyors, following the examination, was submitted to the Housing Committee. The report indicated, 'inter alia,' that the bills had been very carefully priced but that the rates were 'very competitive.' The quantity surveyors' report was forwarded to the Ministry with the tender.

4. Work started in April, 1956, and was completed in January, 1959. The quantity surveyors certified the value of the completed work to be £273,757. The difference between the tender price and the certified value of the completed work represents the cost of approved variations and additions carried out during the progress of the works. The actual cost of the work was £316,048. The excess cost to which we have particularly directed our attention has therefore been the sum of £42,300.

Claims for delay in obtaining possession, waterlogging of site, show flats and delays by nominated sub-contractors, which would have increased the certified value of the completed work, were not in fact pursued. It should be borne in mind that the next lowest tender would have produced a figure of £301,173.

5. Since our inquiry began, loan sanction covering the whole of the cost has been received from the Ministry of Housing and Local Government.

6. Although we examined this matter in all its aspects we gave particular attention to the point of view of a contractor as distinct from that of a body which has employed a contractor to carry out building work. In the latter case the employer would be liable only for the tender price together with the cost of approved variations and additions; in the former case, the contractor is liable for any additional cost for the recovery of which he cannot look to his employer. Looking at the matter then as a contractor, we have been reminded by the quantity surveyor that for a contractor to lose financially on a contract is by no means unusual. In many years' experience, he had found, he told us, that some of the best contractors in London had lost considerable sums of money on some jobs. Completing a job within the estimate depended on many factors 'and, in some cases, luck.' Contractors, however, are able to set off their losses on one contract against their profits on another. Here we have applied ourselves to this particular contract to the exclusion, generally, of others.

The Tender Itself

7. One of the first matters we examined was the tender itself, both as to the amount and as to the period during which it was proposed to complete the work. Evidence was given to us that the estimate on which the direct labour force tender was based totalled £261,387, and that it was considered by the technical staff, then responsible, that a period of 24 months was a reasonable period for completion. It would appear that to make the estimate even more competitive, it was reduced for the purposes of the tender by £6,387, and the period of the contract from 24 to 16 months.

8. The evidence we have heard with regard to the amount of this tender has varied between describing it as 'competitive but realistic for a normal standard of work,' and 'obviously unrealistic.' No evidence has been placed before us to justify the reduction of £6,387 from the original estimate. The weight of evidence, however, was to the effect that the reduction of £6,387 from the estimate was, to say the least, inadvisable and that even without this reduction, the contract could hardly have been completed at the price unless everything had gone absolutely smoothly and no difficulties or delays of any kind had occurred.

9. In point of fact, progress on the work was far from smooth and every conceivable difficulty and delay arose on this contract, as will appear.

10. In considering the amount of the tender, our attention was also drawn to the percentage addition to prime cost sums. We were advised that normally 2½ per cent is allowed on nominated sub-contractors' work. In this tender, in pursuance of a decision which had been taken by the council, only 1 per cent was allowed.

11. We observed that the rates quoted for painting and brickwork were lower than in earlier direct labour force tenders notwithstanding an increase in prices.

12. The following analysis of the actual final cost is not without significance:

	£
Labour	80,500
Materials	91,000
Haulage and Plant ...	2,500
Sub-contractors	115,000
Oncosts	27,000
	£316,000

It seems reasonable to assume that whoever had executed the contract and however long the work might have taken, the second, third and fourth items would not have varied greatly. Accepting the cost of labour and oncosts as the variable elements these could not have varied by more than a relatively small proportion of the total cost. This would seem to give further support to the contention that the tender price was too keenly computed.

13. With regard to the period for the completion of the works, it will be observed that of the 12 contractors tendering, no less than nine failed to quote a time. One tenderer quoted 24 months, another 30 months, and the direct labour force 16 months. Apart from the significance of this, evidence has been given to us by the architect that a contract of this size would normally be expected to take two years to complete. A period of twelve months was required by the sub-contractors responsible for the reinforced concrete frame and floors alone. Our own experience of the time taken on other and simpler building work emphasises the inadequacy of this period of 16 months. Only one of the witnesses

who appeared before us expressed the opinion that the work could have been completed in 16 months, but we have heard no evidence to support that opinion.

We are satisfied that the time allowed for completion was unrealistic and resulted in too low an allowance for preliminaries.

14. In regard to the tender, we have therefore reached the following conclusions:

(a) That the tender price of £255,000 was too low.

(b) That the contract could not have been completed in the period of 16 months quoted in the tender.

15. Although we cannot accept that the restoration of the cut of £6,387 to the direct labour force estimate would have made the tender an entirely viable one, it seems to us to be reasonable to do so in considering the difference between the tender price and the final cost. We are advised by the architect that if the cut had not been made, and a period of 24 instead of 16 months had been quoted, the total effect would, in his opinion, have been as follows:

	£
Estimate	261,387
Preliminaries for 24 months instead of 16 months, add	5,000
	266,387
In addition, if the normal 2½% had been applied to sub-contractors work instead of 1%, this would have increased the tender by	1,700
If the labour rates had been properly priced, this would have added a further	12,000
	£280,087

This may be related to the second lowest tender which was in the sum of £280,534.

16. We have already made brief reference to the fact that difficulties and delays were encountered during the progress of this contract. Most of these are within the knowledge of many of us but we have received evidence with regard to all of them. The principal ones are as follows:

Organisation : The tender was submitted in December, 1955; work began in May, 1956, and finished in January, 1959. Responsibility for the direction of the direct labour force was passed from the town clerk to the borough engineer in December, 1956. A lengthy inquiry into the working of the direct labour force took place during the early part of the contract which led to the re-organisation of the force and the appointment in February, 1957, of a new building manager.

We are satisfied that this change of control is of major significance and constitutes a substantial contributory cause to the excess cost of this contract and was, apart from the tender, the largest individual cause.

Delay in possession of Site : There were delays in obtaining possession of the site to enable the builders to proceed, and, in fact, at one stage a mechanical digger was actually working while people were still in occupation of a house forming part of the site.

Demolition Delay : There were difficulties in connection with the demolition sub-contractors, and this work had to be finished by the direct labour force.

Condition of Site : In July, 1956, there was abnormally heavy rainfall and the trenches were waterlogged. When the new building manager took over, the site was flooded, and extensive pumping had to be carried out.

The official record of the rainfall in London for the relevant month (July) for 1956 and in the years 1953-57 (in millimetres) is as follows: 1953, 77.1; 1954, 63.3; 1955, 24.9; 1956, 117.1; and 1957, 77.5.

Unsatisfactory Work

Plastering : The whole of this work was by sub-contract. It was priced on the basis that a sub-contractor then employed on another contract would be employed on this. However, in view of the council's experience with the plastering on that other contract, it was decided to invite fresh tenders for this work. This involved a higher cost than that provided for in the tender.

Foundation Work : As a result of an unsatisfactory mortar mix in part of the foundations, certain remedial measures had to be taken. An inquiry into the matter held at the time led to the new appointment to which we have already referred. Apart from the actual additional cost involved on these measures, delay was incurred.

Paintwork : Paintwork carried out by the Direct Labour Force on another project immediately before this gave rise to very considerable criticism; this appears to have had the result that an unusual measure of care was taken on this contract to ensure that there should be no justification for similar criticism. The standard of paintwork on the Lordship buildings was therefore particularly high and there would appear to be no doubt that this was reflected in the cost over and above that allowed for in the tender.

Excessive condensation resulting from bad weather necessitated considerable redecoration; external window and door frames had to have additional paint, due to their being on the site too long before they were used. Nevertheless, the architect informs us that 225 man/months were spent on painting. The estimate for this item was vastly overspent. Even allowing for the low tender price, overtime, bad weather, additional painting and the high standard (resulting in a saving in maintenance costs) the cost was too high.

17. When the borough engineer took over control of the direct labour force and the new building manager had been appointed, the attention of the works and building committee was drawn to what they considered to be the unrealistic nature of the tender. That committee had, of course, been made aware of the other difficulties to which we have referred as they arose. Up to the end of January, 1957, although the work had been in progress for nine months (more than 50 per cent of the contract time), only 15 per cent of the work had been completed. From that stage, a new timetable was prepared and the work completely re-organised after which difficulties were reduced to a minimum ; there were, however, delays due to shortage of bricks and to the redecoration referred to in the previous paragraph. Those councillors attending our meetings who were members of the works and building committee at the time have told us that, being aware of the circumstances, it was fully realised by the committee that the work could never be completed within the contract price.

18. Certain of the delays and difficulties would have been encountered by any contractor ; others would not.

19. In attempting to assess the financial effect of the first category, we have been advised that a contractor could have justified a claim for between £2,500 and £5,000 in respect of the delays beyond his control. If this sum is added to the amount of the second lowest tender, together with the value of the variations and additions made during the course of the work, a figure of between £302,500 and £305,000 is reached.

The negotiation of such a claim by the direct labour force would have entailed a considerable amount of administrative work by technical officers, to the detriment of current construction work, and there would have been no financial advantage to the council as would have been the case with a contractor. In these circumstances the claim was not pursued.

We have been advised of the financial assessments that could be placed on the other difficulties and delays which would account for the difference between this figure (£302,500-£305,000) and the final cost. We resist the temptation to set this forth as a simple arithmetic calculation, partly because we realise that it would be merely an estimate of something which it is virtually impossible to calculate with any precision, and partly because it might imply that we are satisfied with a facile explanation of the position. Whilst we are satisfied that the excess cost is not due to any one cause but rather that it is due, in the main, to the cumulative effect of the many adverse circumstances to which we have referred, we feel far from satisfied with the position. We are resolved, however, that if any good is to come out of our labours, we must, in future, be guided by what we have learned.

Building in the City

Norwich-street Office Scheme Approved by Council

THE COURT OF COMMON COUNCIL, at its meeting in London on November 6, approved a recommendation of its Improvements and Town Planning Committee that planning permission be given for the erection of a 3-storey office building at 7 and 9 Norwich-street (Messrs. Yates, Cook and Darbyshire, Great Marlborough-st., W1).

This was the only major development application to come before the meeting.

The Court was told that provisional terms of compensation, amounting to £23,510, had been reached with the owner of 25 and 27 New Bridge-street, a property which is affected by stage one of the Blackfriars Bridgehead improvement scheme.

Confirmation by the Minister of compulsory purchase orders were reported: 96 to 100 Aldersgate-street and 1 to 6 Bridgewater-place—£27,000; 150 Cheapside—£56,825; and 149 Cheapside—£2,875.

Purchases by agreement were recommended in the following: 4 Huggin-hill—£7,100; 8 Huggin-hill—£7,700; 201 Upper Thames-street—£12,680; and 203/5 Upper Thames-street—£46,500.

THE BUILDER LONDON MEASURED RATES

These prices for new building work in London normally appear in the first issue of each month only. The prices are inclusive of all allowances for National Insurance, Holidays with Pay and Public Holidays, Third Party Risk, Travelling Allowances and Guaranteed Week. They cover a profit of 10 per cent on the prime cost without any addition for establishment charges.

These rates do not include for Foremen and other preliminary items, such as office, sheds, plant and scaffolding, etc., and these must be added accordingly.

The basic cost of the labour and materials used in arriving at the rates has been derived from the 'Current Prices of Materials' published in *The Builder*.

The data given are copyright. While every endeavour is made to ensure accuracy, we do not hold ourselves responsible for any error that may occur.—EDITOR.

EXCAVATOR

All hand labour	*Per yd. cube*									
	Loose earth		*Firm soil*		*Stiff clay*		*Chalk and flints*		*Rock, etc., no blasting*	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Surface excavation to shallow depths	9	4	11	10	13	8	20	7	52	8
Bulk do. or large trenches, etc., not exceeding 5 ft. deep ...	8	6	10	9	12	5	18	3	47	11
Trenches do. under 4 ft. 6 in. wide and do.	11	6	13	11	16	1	23	9	62	10
Pier holes and similar under 6 ft. square and do.	12	11	16	1	18	8	26	6	70	11
Additional throw for every 5 ft.:										
Bulk excavation	4	1	4	1	6	0	6	0	6	2
Trench ,, ...	5	7	5	7	7	6	7	6	7	8
Pier ,, ...	6	3	6	3	8	6	8	6	9	7
Return, fill and ram	5	9	5	9	7	8	7	8	10	0
Wheeling surplus n.e. 100 yds. run and depositing	9	2	9	2	9	2	9	2	10	6
Underpinning in trenches ...	15	0	20	9	24	2	34	6	—	

	s.	d.
Loading lorries and transporting to tip ... ... Yd. cube	18	0
Basketing out and depositing ... ... ,,	11	6
Planking and strutting to sides of surface or basement trenches:		
Depth up to 5 ft. ... ... Ft. sup.		7
,, ,, 10 ft. ... ... ,,		9
,, ,, 15 ft. ... ... ,,		10
Hardcore:		
Filled-in layers and consolidated ... ... Yd. cube	24	6
do. 4 in. thick ... ... Yd. sup.	3	7
do. 6 in. thick ... ... ,,	4	9

CONCRETER

	Basic yard cube rates							
	1:12		1:3:6		1:2:4		1:1½:3	
Aggregate	1½ in. all-in		1½ in.		¾ in.		½ in.	
Concrete in normal foundations: (minimum 8-ton cement loads)—	s.	d.	s.	d.	s.	d.	s.	d.
Portland cement standard specification	69	0	77	8	85	6	93	7
Portland cement rapid hardening	70	3	79	6	88	0	96	11
Water-repellent cement	73	0	83	5	93	9	104	1

Add to above basis for:	s.	d.
4 in. surface beds ... ... Yd sup.		8½
6 in. ,, ,, ... ,,		9½
(If above two items worked around mesh reinforcement, add 6½d. per yd. *super.*)		
Foundations in underpinning in short lengths ... Yd. cube	19	9
Beds and flaunchings to drains ... ... ,,	9	4
Pier or stanchion foundations—small ... ... ,,	4	9
Sundry small items not exceeding 3 ft. cube in plinths, curbs, padstones, etc. ... ... ,,	27	0

REINFORCED CONCRETE

ADD to above 'Basic Yard Cube Rates'

Reinforced concrete including working around reinforcement between formwork and hoisting to normal levels :	s.	d.
Foundations and similar ... ... Yd. cube	6	3
Isolated stanchion or pier bases ... ... ,,	6	3
Walls not exceeding 6 in. thick ... ... ,,	31	3
,, ,, ,, 12 in. ,, ... ,,	21	10
Suspended floors or flat roofs 4½ in. thick ... ... Yd. cube	27	0
,, ,, ,, ,, 6 in. ,, ... ,,	20	3
,, ,, ,, ,, 9 in. ,, ... ,,	17	3
(Beams attached to floors or flats, *add* 7/9 yd. cube)		
Isolated beams or lintels average 72 sectional inches ... ,,	37	6
Do. average 144 sectional inches ... ... ,,	30	2
Columns or stanchions average 72 sectional inches ,,	43	9
,, ,, ,, ,, 144 ,, ,, ,,	39	4
Staircases and landings, etc. ... ... ,,	65	6
Shell roofs average 3 in. thick, including labour forming curved surface ... ... ,,	156	0
Hollow tile floors :		
Hollow clay tiles 4 in. thick with 1 : 2 : 4 concrete ribs at 14 in. centres with filler tiles and 1½ in. fine concrete screed (excluding reinforcement and form work) ... ... Yd. sup.	20	0
All as above but 6 in. thick clay tiles ... ... ,,	24	3
,, ,, ,, ,, 9 in. ,, ,, ,, ... ,,	30	3
Sundry items :		
2 in. concrete (1 : 2 : 4) blinding bed ... ... Yd. sup.	5	3
Spade finish to concrete beds ... ... ,,		10½
Trowel ,, ,, ,, ... ,,	2	1
Laying to falls and currents ... ... ,,	1	3
Hacking concrete by hand ... ... ,,	3	2
Hacking concrete by use of proprietary liquids ... ,,	1	9
Damp-proof membrane in three coats with sanded key ... ... ,,	5	3
½ in. Bitumen expansion joints 4 in. deep in floors ... Yd. run	4	3

	Mild steel rods (round) cut, bent, hooked, wired and fixed complete (Ex. London Stock)							
	¼ in.		⅜ in.		½ in.		⅝ to 1 in.	
Reinforcement :	s.	d.	s.	d.	s.	d.	s.	d.
Floors beams laid in only	94	0	82	2	76	11	71	6
,, ,, wired into frames...	107	6	95	8	90	6	85	0
Walls wired into frames	107	6	95	8	90	6	85	0
Columns wired into frames ...	107	6	95	8	90	6	85	0
Staircases wired into frames ...	110	3	98	5	93	3	87	8

	s.	d.
Steel mesh fabric reinforcement :		
Laid in floors including laps and straight cutting and wiring, etc. :		
Weight 1.83 lb. per yd. sup. ... ... Yd. sup.	3	4
,, 4.71 lb. ,, ,, ,, ... ,,	4	10
,, 7.32 lb. ,, ,, ,, ... ,,	7	6
Raking cutting worth 6 in. material cost per ft. run		
Circular cutting worth 9 in. material cost per ft. run.		
Formwork (Sawn) including strutting, easing and removal and average four times use of timber :		
Soffit of floors and flat roofs ... ... Yd. sup.	18	6
Sloping soffits of stairs ... ... ,,	25	0
Barrel-vault soffits of floors and roofs ... ... ,,	23	6
Vertical sides of walls ... ... ,,	17	6
Battering sides of walls ... ... ,,	23	0
Columns ... ... Ft. sup.	2	8
Lintels and beams ... ... ,,	2	10
Staircase strings cut to tread and riser ... ... Ft. run	4	0
Edges of concrete floors, etc., up to 12 in. deep per inch in height ... ... ,,		2½
Rebates or similar per inch girth up to 6 in. girth ,,		3
Raking cutting ... ... ,,		9½
Extra cost for wrought shuttering and labour rubbing down to leave fair face on concrete ... Yd. sup.	2	10
Pre-cast Concrete (1 : 2 : 4) *including fair face :*		
4½ in. x 6 in. reinforced lintels ... ... Ft. run	3	4
9 in. x 6 in. ,, ,, ... ,,	5	9
9 in. x 9 in. ,, ,, ... ,,	9	4
Steel Formwork :		
Steel shuttering forms with patent expanding floor centres and telescopic props not less than four times use on each job with continuous use ... Yd. sup.	14	0

Partitions : (Minimum 100 yd. super)	Yd. super rates			
	2 in.	3 in.	4 in.	6 in.
	s. d.	s. d.	s. d.	s. d.
Clinker concrete slab partitions in cement mortar	10 4	12 9	15 0	—
Cranham terra cotta slab partitions in cement mortar	14 8	17 8	20 8	—
Moler partition block partitions in cement mortar	20 5	23 8	26 8	—
Thermalite-Ytong partition blocks in cement mortar	—	15 8	19 4	28 6
'Phorpres' hollow clay partition blocks in min. of 6-ton loads ...	10 9 (2½ in.)	12 9	16 1	26 2

Cuttings :

Raking cutting and waste = ⅓ of ft. sup. rate
Circular „ „ „ = ½ of ft. sup. rate
Cutting around openings = ¼ of ft. sup. rate
Cutting and bonding at angles, intersections and ends all at 6d. ft. run.

BRICKLAYER	Yd. super rates			
	Plain flettons	Rough stocks	Second stocks	Blue wire-cuts
	s. d.	s. d.	s. d.	s. d.
Brickwork in cement mortar (1 : 3) reduced to one brick thick	39 6	55 0	63 9	95 0
Deduct if in 1 : 1 : 6 cement-lime mortar	10	10	10	10
Add if in :				
Filling in openings	6 3	6 3	6 6	8 1
Backing to masonry	3 1	3 1	3 4	4 0
Building overhand	2 0	2 0	2 1	2 5
Raising on existing work	3 1	3 1	3 4	4 0
Circular on plan to quick sweep...	6 0	6 0	6 4	7 0
Small detached piers, plinths, etc.	9 2	9 2	9 8	11 6
Underpinning	6 0	6 0	6 6	7 9
Brick-on-edge walls	14 2	19 4	22 7	—
Half-brick sleeper walls honeycombed	14 11	20 0	—	—
Half-brick walls	23 10	31 9	36 4	55 4
do. with fair face and pointing both sides as work proceeds	27 4	—	40 0	59 8
One-brick wall with fair face and pointing both sides as work proceeds	45 4	—	69 6	102 4
11 in. cavity brick wall with two half-brick skins with 2 in. cavity and three galvanised iron twisted ties to every yd. sup.	51 6	—	76 0	—

Sundry items :		s. d.
Horizontal double slate damp-proof course ...	Ft. sup.	3 8
Vertical „ „ „ „ ...	„	4 6
Hessian-base bitumen damp-proof course	„	1 7
Levelling and preparing for raising on	„	1 2
Cutting, toothing and bonding new to old	„	4 6
Wedging and pinning with slates in underpinning ...	„	5 8
Rough cutting	„	7
Cutting and fitting brickwork around steel ...	„	7
Bed and point frame one side	Ft. run	4½
Rough cutting squint or birdsmouth	„	7
Labour plumbing angles on faced work	„	3
Rake out and point to lead flashing	„	8
„ „ „ „ stepped flashing	„	11½
Cutting groove for skirting and point	„	1 9
Shallow chases for small pipes and conduit	„	1 11
Metal reinforcement 24 gauge 2½ in. wide	„	5
Faced work : (Flemish bond) :		
Add or deduct for every 10s. per 1,000 difference from basic price of common bricks in Flemish bond in solid work	Yd. sup.	9
do. to half-brick wall in stretcher bond	„	6½
Add for extra labour to each side in facings and pointing as work proceeds	„	3 6
do. butt joints raked out and pointed with special mortar	„	6 9

If built in English bond, add 12½ per cent to above items.

Labours :		
Fair cutting	Ft. run	1 3
Fair circular cutting	„	1 6
Fair squint or birdsmouth cutting	„	1 11

Copings :		9 in. wall	14 in. wall
		s. d.	s. d.
Brick-on-edge coping in flettons finished fair and pointing as work proceeds ...	Ft. run	2 8	3 7
Add for every increase by 10s. per 1,000 in cost of superior bricks	„	1	1½
Add for two courses of roofing tiles under and cement weather fillets on both sides	„	4 0	4 9
Cills :			
Two courses of roofing tiles laid breaking joint in cement mortar, set weathering and pointing ...	Ft. run		4 0
Arches :			
Extra over fletton brickwork for brick-on-end flat arch 4½ in. on soffit and 9 in. high in facings p.c. 350s. per 1,000 and pointing	Ft. run		3 9
Extra over fletton brickwork for fair axed arch in stock facings p.c. 350s. per 1,000 and pointing (cuttings measured separately)	Ft. sup.		9 9

CURTAIN WALLING

Curtain walling of hollow, extruded, aluminium alloy mullion and transom units fixed together to form a grid to conventional steel and concrete framework, including glazing complete and a reasonably priced infilling panel and subject to the number of vents, etc., required, a fair average price is from 23/- to 30/- per ft. sup.

PAVIOR

	Yd. super rates			
	½ in.	¾ in.	1 in.	1¼ in.
	s. d.	s. d.	s. d.	s. d.
Cement screed (1 : 3) to receive pavings	4 10	5 9	6 8	7 8

Add to above for :		d.
Trowelling smooth	Yd. sup.	8
Narrow widths or small quantities — add 25 per cent. to plain surfaces : Laying to falls	„	5

	Yd. super rates			
	1 in.	1¼ in.	1½ in.	2 in.
	s. d.	s. d.	s. d.	s. d.
Granolithic paving (1 : 2½) laid on concrete	9 6	11 0	13 3	14 6

Add to above :		
Narrow widths or small quantities—add 25 per cent. to plain surfaces.		
Surface hardening with three coats of silicate of soda	Yd. sup.	s. d. 1 8
Carborundum finish with 2 lb. per yd. sup. trowelled in	„	3 3
¾ in. skirting 5 in. high covered at bottom and fair top edge ... ... Mitres and ends—8d. each.	Ft. run	3 0
Composition flooring ½ in. thick	Yd. sup.	18 0
Terrazzo paving ⅜ in. thick	„	45 0
Rubber flooring ¼ in. thick	„	65 0

ASPHALTER

		Mastic BSS 988	Natural rock BSS 1162
Asphalt roofing :		s. d.	s. d.
¾ in. flat to falls in two thicknesses on felt underlay on prepared screed	Yd. sup.	15 0	21 0
do. in small quantities or narrow widths	Ft. sup.	2 1	2 11
6 in. high skirting with angle fillet and splayed edge at top	Ft. run	2 8	3 2
External angles on do.	No.	8	8
Internal angles on do.	„	8	8

		Mastic BSS 1097	Natural rock BSS 1418
Asphalt Damp-Proof Course and Tanking :		s. d.	s. d.
Vertical damp-proof course in 2 thicknesses	Yd. sup.	22 0	28 6
do. in narrow widths	Ft. sup.	2 8	3 6
¾ in. Horizontal damp-proof course in two thicknesses	Yd. sup.	15 0	21 0
do. in narrow widths	Ft. sup.	1 11	2 8
Vertical tanking in three thicknesses ...	Yd. sup.	26 3	33 0
1½ in. Horizontal do. in three thicknesses	„	20 3	30 8
Labour double angle fillet	Ft. run	1 5	1 5

DRAINLAYER

	Per yd. run Depth of trench				
	2 ft.	3 ft.	4 ft.	5 ft.	10 ft.
	s. d.	s. d.	s. d.	s. d.	s. d.
Excavate trench, part return fill and ram and remove surplus, inc. planking and strutting. (In firm soil—if in clay or chalk adjust in accordance with previous excavation rates)	9 0	23 9	31 8	39 6	117 0

	Per yd. run		
	4 in.	6 in.	9 in.
	s. d.	s. d.	s. d.
Concrete (1 : 6–1½ in. agg.) 12 in. wider than external diameter of pipe in 4 in. bed and benching up on both sides	8 9	11 8	12 5
do. but 6 in. bed and do. ...	10 6	12 5	14 11
do. but 4 in. bed and surround to pipe	12 9	15 10	21 0
do. but 6 in. bed and surround to pipe	17 1	20 10	26 1
	Per ft. run		
Salt glazed drain pipes laid and jointed in trench (Minimum two-ton loads) :	4 in.	6 in.	9 in.
	s. d.	s. d.	s. d.
'Seconds'	2 11	4 1½	6 7
'Best'	3 2	4 7	7 5
'Best Tested'	3 11½	5 8	9 5
'British Standard'	3 5	4 10½	8 0
'British Standard Tested'	4 2	5 11½	9 10
Extra for bends 'Best' quality	4 5	6 7	19 0
Extra for junctions 'Best' quality	7 10	11 1	23 11
Cast iron drain pipes to BSS 437 laid and jointed with molten lead in trench	15 6	22 9	—
Extra for :			
Short lengths	4 3	5 4	—
Bends and extra joints	23 6	60 6	—
Junctions and do.	48 3	105 8	—
Cast-iron gulley trap with 9½ in. x 6½ in. grating and joint	46 6	—	—
Cast-iron rainwater shoe with vertical inlet, inspection door and bedding and joints ...	71 9	—	—
Cast-iron inspection fittings with single branch fitting one side	167 0	—	—

	Per ft. run		
	3 in.	4 in.	6 in.
	s. d.	s. d.	s. d.
Pitch fibre pipes to BS 2760 and laying and jointing in trench (in loads of £60 to £250)	2 7½	3 5	6 4

	4 in.	6 in.
	s. d.	s. d.
Manhole items :		
Brown glazed stoneware, straight, half-round channels ... ... Each	5 7	8 0
do. ordinary channel bends ... „	12 5	17 9
Three-quarter section curved channel bends with splayed ends ... ... „	15 1	22 8
Cast-iron heavy galvanised steps ... ... Each		13 6
Bedding and sealing medium weight manhole covers and frames (cost of cover to add)... ... ... „		11 0
do. heavy road covers and frames ... ... „		14 6

MASON

	Per ft. cube		
	Bath	Portland	York
	s. d.	s. d.	s. d.
Stone and all labours fixed in :			
Ashlar average 6¾ in. on bed ... Ft. sup.	34 4	39 3	41 0
Moulded string course 9 in. x 6 in. Ft. run	29 9	32 6	35 6
Moulded cornice 18 in. x 9 in. ... „	75 0	81 3	84 6
Weathered and throated cills :			
9 in. x 3 in. ... ... „	18 9	20 0	21 7
12 in. x 6 in. ... ... „	37 6	39 1	42 0
Weathered and throated copings:			
12 in. x 3 in. ... ... „	20 0	22 0	23 0
14 in. x 6 in. ... ... „	40 0	45 0	46 6
Plinth rubbed top and face size :			
4½ in. x 9 in. ... ... „	20 6	22 9	22 0
Plain steps, size 12 in. x 6 in. ... „	—	—	37 6
„ „ „ 14 in. x 2 in. ... „	—	—	17 6
Riser, size 2 in. x 4 in. ... „	—	—	8 6
2 in. Sawn paving edges squared in random sizes ... ... Yd. sup.	—	—	103 0
Supplied only :			
Templates and cover stones coped edges ... ... Ft. cube	—	—	35 3

ROOFER

	Yd. sup.
	s. d.
Bituminous built-up roofing in two layers of felt, the first layer 45 lb. and the second 55 lb. to BS 747, covered with limestone or granite chippings n.e. ¼ in. thick	10 6
All as above but in three layers, the first and second layers in felt 45 lb.	14 6

	Steel Tees at	
	2 ft. 0½ in. centres	4 ft. 0½ in. centres
	s. d.	s. d.
2 in. compressed straw building slabs in standard sizes fixed complete with 18G steel tees with fixing clips to steel structure to form roof decking :		
Areas of 50–100 yds. sup.	29 0	22 4
„ 101–250 „	28 0	21 9
„ 251–750 „	27 3	21 3
„ Over 750 „	26 5	20 3
If 16G steel tees are used—Add to above ...	1 5½	9

Welsh slating	Per square		
	16in.x8in.	18in.x10in.	20in.x10in.
	s. d.	s. d.	s. d.
Laid with 3 in. lap and 2 zinc nails each slate	391 0	420 0	519 0
Additional labours:			
Top edge cutting ... ... Ft. run	10	9½	9
Square abutment do. ... „	10	9½	9
Double course at eaves... „	1 6	1 4	1 3
Raking, cutting and waste „	1 0	11½	11
1½ in. x ¾ in. slate battening for last ... ... Per sq.	39 9	36 0	32 3

Roof Tiling	Per square		
	Berkshire hand-made	Stafford machine made	Concrete Tiles
	s. d.	s. d.	s. d.
Roof tiling with 10½ in. x 6½ in. tiles laid to a 4 in. gauge, every fourth course fixed with two galvanised nails	270 0	260 0	167 6
1 in. x ¾ in. tile battening for last	43 0	43 0	43 0
Additional labours:			
Top edge cutting ... ... Ft. run	11	10	9
Square abutments do. ... „	11	10	9
Raking cutting to hips ... „	1 1	1 0	11
Eaves course ... ... „	1 1	1 0	11
Half-round ridge and hip tiles ... „	3 3	3 1	2 11

CARPENTER AND JOINER

	Ft. cube			
	Plates	Joists	Rafters & Partitions	Roof trusses
	s. d.	s. d.	s. d.	s. d.
Softwood carcassing, including all waste, nails, hoisting and fixing	18 4	21 8	25 0	29 3

	Per square		
	¾ in.	1 in.	1¼ in.
	s. d.	s. d.	s. d.
Boarding and Flooring: (Softwood):			
Rough boarding to flats and roof... ...	139 0	178 0	217 0
Softwood plain edge flooring cleaned off	171 0	193 0	224 0
Tongued and grooved flooring cleaned off	187 0	217 0	263 0

		s. d.
Extra for 2 in. x 3 in. average firrings	Per sq.	89 0
Herringbone strutting to 2 in. x 8 in. joists	Ft. run	2 0
1 in. gutter boarding and bearers	Ft. sup.	4 2
Raking, cutting and waste on 1 in. flooring	Ft. run	10
Composition Boards, etc.:		
⅛ in. hardboard to BS 1142 fixed to vertical battens	Yd. sup.	7 1
½ in. insulation board to BS 1142 do. do.	„	7 3
1 in. woodwool slabs fixed to flat or sloping soffits	„	10 0
2 in. compressed straw building slabs in standard sizes fixed to wood bearers to flat or sloping surfaces in quantities of 101 to 250 yds. super	„	15 5
¼ in. flat asbestos sheeting fixed vertically	„	11 6

Wood Block Flooring:		s.	d.
1 in. nominal West African mahogany flooring laid herringbone pattern in mastic... ... ... Yd. sup.		36	0
1 in. do. Agba	„	36	0
1 in. do. Sapele	„	38	0
1 in. do. Beech	„	41	0
1 in. do. Rhodesian Teak	„	54	6

Extra for preparing and polishing 2/3 yd. sup.

	Sectional area		
	n.e. 4 in.	*4–6 in.*	*ex. 6 in.*
Skirtings:	s. d.	s. d.	s. d.
Softwood skirting with rounded or moulded edge, planted on including all labours in short lengths, mitres, etc., per in. in sectional area	4	3½	3

Labours over 6 in.—Mitres = 1 ft. run. Return mould ends = 1 ft. 6 in. run
Sawn grounds nailed 3½d. ft. run. If plugged + 7d. ft. run.

	Ft. super	
	Large sqrs.	*Small sqrs.*
Sashes and Frames: (Softwood):	s. d.	s. d.
1½ in. rebated, rounded or moulded fixed	4 0	6 3
2 in. „ „ „ „	4 5	6 6
Add for hanging on butts ... ... each	3 0	3 0
Double-hung sashes and frames with oak cills, purpose-made and not less than 1 doz. in each order:		
Quantities under 1 doz.—add up to ¼ according to quantity. (Average size 4 ft. x 5 ft.)	11 9	15 9

Extra cost of boxed mullions 1s. 1d. ft. sup.
Extra for hanging sashes with lines, weights and axle pulleys 50s. each.

	Ft. super			
	1¼ in.	*1½ in.*	*1¾ in.*	*2 in.*
Doors: (All-purpose-made) (Softwood)	s. d.	s. d.	s. d.	s. d.
Softwood skeleton framed with hardboard flush both sides (standard internal pattern)	4 0	4 5	4 10	5 4
Framed, ledged and braced	—	5 7	6 9	7 0
Four panel square framed both sides	5 4	6 1	7 3	7 6
Add for each side moulded on last ...	6½	6½	6½	6½
do. flush framed	1 1	1 2	1 4	1 4
do. bead and butt do. ...	1 4	1 5	1 7	1 7
do. bolection moulded do. ...	1 7	1 7	1 7	1 7
do. raised and fielded do. ...	—	2 6	2 6	2 6

Rebated and beaded meeting stile 4d. ft. run.
Dwarf doors add up to 50 per cent. according to size.

	Sectional area		
	n.e. 6 in.	*6-12 in.*	*ex. 12 in.*
Window and Door Linings and Frames:	s. d.	s. d.	s. d.
Softwood linings per inch of sectional area	5	4½	4
Add for cross-tongueing	—	1¼	1
Frames, including rebating and once moulded or equivalent of two run labours, per sectional inch	4½	3¾	3½

Transomes and cills plus 10 per cent. on frames.
Additional run labours plus 1½d. per ft. run.

	Per ft. run			
	Sectional area			
	1 in.	*2 in.*	*4 in.*	*6 in.*
Softwood Bearers, Fillets and Mouldings, etc.:	s. d.	s. d.	s. d.	s. d.
Wrot grounds, bearers, fillets, etc.	5	7¾	1 0	1 4½
Mouldings, picture rails, architraves, etc.	5½	8¼	1 0	1 5
Framed legs and bearers or similar	10	1 0	1 5	2 0
Glazing heads, mitred and bradded	6½	9¾	—	—
Add for plugging	6½	6½	6½	6½
Add for brass cups and screws ...	2½	2½	2½	2½

	Thickness			
	¾ in.	*1 in.*	*1½ in.*	*1¼ in.*
Shelving (Softwood):	s. d.	s. d.	s. d.	s. d.
Slat shelving 2 in. wide spaced 1 in. between ... ... Ft. sup.	2 2	2 6	3 0	3 5
9 in. shelving... ... ... Ft. run	2 3	2 7	3 2	3 10
Shelving over 9 in. wide ... Ft. sup.	2 10	3 2	3 10	4 7

1 in. x 2 in. chamfered bearers in short lengths, plugged, each 2s. 6d.

	Ft. super	
	1 in. treads	*1¼ in. treads*
Staircases (Softwood):	s. d.	s. d.
Treads and risers with moulded nosings, glued, blocked and bracketed on carriages	6 10	7 9
Cross-tongued winders	9 0	10 3

		s.	d.
Strings, framed	Ft. run	5	3
Housings for treads and risers	Each	3	4
1 in. x 1 in. sq. balusters framed each end on rail ...	„	4	6
3½ x 3½ in. sq. framed newel	„	5	8
Mahogany handrail, average 3 in. x 3 in.	Ft. run	10	3
„ „ ramped	„	28	6

FIXING ONLY IRONMONGERY

All to Softwood:	*Each* s. d.		*Each* s. d.
Barrel bolts	2 0	Rim locks	5 9
Flush bolts	7 0	Mortice locks	12 1
Sash fasteners	3 9	Overhead door springs...	16 0
Casement fasteners ...	2 6	Patent floor springs and oil	40 0
Cupboard locks	5 6		

FOUNDER AND SMITH

Fabricated steelwork of basis section including hoisting and fixing at various levels:		s.	d.
Rolled steel joists	per cwt.	93	0
Compound girders	„	99	6
Stanchions	„	105	9
Compound stanchions	„	111	0
In roofwork—trusses and purlins	„	127	6
(Average prices, not for awkward work)			
Cleats, brackets, packing pieces, etc., in connections, including rivets and bolts	„	151	0
Wrot iron framed cat ladders	„	155	0
	to	175	0

PLUMBER

		Per ft. run		
		3 in.	*4 in.*	*5 in.*
Cast iron rainwater goods: (Under 5 cwt. lots):		s. d.	s. d.	s. d.
Half-round gutter jointed in red lead and bolted and fixed with iron brackets		3 5	4 1	4 11
Extra for stop ends	each	2 7	3 2	4 3
do. angles or outlets	„	6 3	6 7	7 9
O.G. gutter of ¼ in. metal fixed as above		3 11	4 6	5 3
Extra for stop ends	each	2 11	3 6	4 8
do. angles or outlets	„	7 1	7 3	8 9
		2 *in.*	3 *in.*	4 *in.*
Rainwater pipe jointed in red lead and tow fixed to brickwork with pipe nails and distance pieces: ¼ in. metal		4 7	5 2	6 9
Extra for shoes	each	5 6	7 6	10 0
do. bends	„	6 2	8 9	11 6
do. junctions	„	8 5	11 10	15 6
Cast iron soil and waste pipes: (Under 5 cwt. lots):		2 *in.*	3 *in.*	4 *in.*
Soil, waste or ventilating pipes with caulked joints fixed to brickwork with pipe nails and distances pieces: 13/64 in. metal		6 7	7 8	10 1
Extra for bends	each	14 7	17 3	21 1
do. junctions...	„	18 2	25 0	31 6
do. oval access door to any fitting	„	16 6	16 6	21 3
Extra cost for type 'E' holderbat fixing and cutting and pinning to brickwork	ft. run	1 8	1 9	1 9½

	Soakers	Flats	Gutters, valleys, etc.	Flash-ings	Stepped Flash-ings
External leadwork :	s. d.	s. d.	s. d.	s. d.	s. d.
(Over 1 ton) :					
Milled lead and labour in per cwt.	140 7	168 0	181 3	187 10	199 9

Labours, etc. : Double welt...	ft. run	1	1
Copper nailing : Open	,,		5
Close	,,	1	2
Soldered seam	,,	7	0

		2 in. x 10 lb.	3 in. x 15 lb.	4 in. x 19 lb.
Lead pipes : (Over 1 ton) :		s. d.	s. d.	s. d.
Soil, waste and ventilating pipes, fixed to walls with plain lead tacks and brass screws	per ft.	11 1	14 6	18 7
Extra for : Lengths under 4 ft. ...	,,	3 4	3 10	5 0
Bends	No.	13 9	26 0	27 0
Wiped soldered joints	,,	23 8	31 7	35 7
,, branch joints	,,	27 4	41 0	45 3

	Per ft. run					
	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Lead pipes including running joints :	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Main in trench ...	3 6	5 2	7 9	9 7	12 2	17 9
do. fixed with hooks	4 5	6 2	9 0	11 3	14 0	19 0
Service and do. ...	3 7	5 1	7 2	8 7	10 10	14 1
Waste and do. ...	2 11	4 2	6 1	7 2	8 10	11 4
Extra for lengths under 4 ft. ...	11	1 2	1 9	1 11	2 4	2 10
Soldered stop ends ... ... No.	2 9	3 4	4 1	5 0	5 8	7 4
do. joints to fittings ... ,,	7 0	10 0	12 0	14 3	17 10	21 8
do. branch joints... ... ,,	7 8	11 0	13 2	15 8	19 7	23 10
Brasswork :						
Union with red lead joint to iron and soldered joint to lead ... ... ,,	12 10	16 3	20 3	24 2	30 4	43 6
Stop-cock and soldered joints ... ,,	22 2	32 2	45 7	71 10	92 11	170 9
Bib-cock do. ,,	18 6	25 7	—	—	—	—
Ball-valve do.... ,,	18 0	31 10	45 3	73 5	92 1	—
Steel tubing :						
Galvanised tubing Class C laid in trench	2 7	2 9	3 2	4 6	6 0	7 1
do. Class B fixed to walls, etc. ...	2 10	3 4	3 8	4 10	6 8	7 8
Extra for bends No.	5 6	6 3	8 4	10 9	12 9	18 10
Tees ,,	6 3	7 5	9 0	11 11	14 0	20 6
Red lead joints ,,	4 0	4 3	4 8	5 2	6 0	6 8
Copper tubes and fittings : gauge	19	19	18	18	18	17
Tubes and fixing to walls	2 7	3 4	4 6	5 5	6 4	9 2
Extra for lengths under 4 ft. ...	7	9	11	1 0	1 3	1 6
Brass capillary type fittings :						
Couplings — copper to copper ...	3 8	4 4	6 9	8 9	11 2	15 3
Bends— do. ...	5 10	7 1	8 11	11 7	17 2	32 3
Tees— do. ...	8 7	9 11	14 2	19 2	26 3	36 4
Stop cocks	23 7	33 1	60 2	101 2	152 3	250 4
Tank connectors ...	4 9	5 4	8 1	10 2	14 3	18 4

PLASTERER

		s. d.
Expanded metal lathing ⅜ in. mesh 24 gauge ... ... (not including hangers for suspended work)	Yd. sup.	9 0
Lime Plastering : Render, float and set	,,	10 5
Sirapite Plastering: Render in Portland Cement, Lime and Sand and set in Sirapite	,,	8 1
Sirapite Plastering: Render and set in Sirapite plaster to manufacturer's instructions	,,	8 5
Paristone Plastering : do. do.	,,	8 8
Carlite Plastering : do. do.	,,	9 8
Portland Cement : Plain face trowelled smooth ...	,,	10 5
Keenes: Render in cement and lime and set in Keenes	Yd. sup.	11 0
Extra for dubbing out ¼ in. thick 1/11, ½ in. thick 3/11		
⅜ in. Plasterboard and setting coat	,,	9 4
Narrow widths: Up to 3 in. wide add 300 per cent. Do. 3-6 in. do. 200 per cent. Do. 6-12 in., add 75 per cent.		
Labours : Arris 5½d. Fair edge 6½d. Quirk 10d.		
Plaster Moulded Cornices : 6 in. girth and under ...	Ft. run	3 3
Over 6 in. girth, add 3½d. per in.		
Tyrolean Rendering on and including Portland Cement and Sand backing	Yd. sup.	13 3
Wall Tiling : 6 in. x 6 in. white glazed ¼ in. thick ...	,,	46 0
Extra for rounded angle or birdsbeak	Ft. run	4½
do. rounded edge tile	,,	5½

GLAZIER

	Wood sashes with beads or putty
	s. d.
Clear sheet glass ordinary quality :	
18 oz.	1 5½
24 oz.	1 8¼
26 oz.	1 11
32 oz.	2 4
Obscured glass :	
⅛ in. Figured rolled White group 1	1 11
,, ,, ,, group 2	2 3
,, ,, Standard tints	2 7¼
⅛ in. Pinstripe, Hammerstripe, Reeded, Reedlyte and luminating group 3	2 4½
⅛ in. Wired Cast	2 8¼
¼ in. Georgian Wired Cast	2 8½
¼ in. Polished Plate Glass, G.G. Quality :	
In plates not exceeding 2 ft. sup.	6 9
,, ,, ,, 5 ft. sup.	7 9
,, ,, ,, 45 ft. sup.	9 9
,, ,, ,, 100 ft. sup.	9 8
Extra on all above :	
For glazing with screw beads ft. sup. ... ... (Excepting polished plate over 12 ft. super on which no extra is charged)	6
For glazing with metal sashes with putty	1
Glazing bedded in washleather	Ft. run 9

PAINTER

		s. d.
Limewhiting : Prepare and two coats on brick ...	Yd. sup.	1 3
Whitening : Prepare and two coats on plaster ...	,,	1 6
Washable distemper: Prepare and two coats on plaster	,,	2 1
Emulsion paints : Prepare and two coats on plaster ...	,,	3 3

Painting with oil colours :	Yd. super 1 coat	2 coats	3 coats
	s. d.	s. d.	s. d.
Prepare and paint on plaster	2 4	4 5	6 7
On Steel :			
Plain surfaces	1 11	3 9	5 8
Roof trusses...	2 5	4 9	7 2
Metal casements divided into squares ...	3 6	7 0	10 6
do. divided into large squares ...	2 9	5 3	7 10
Opening edges ... ... Each	8	1 3	1 10
Small pipe ... ... Yd. run	6	1 0	1 5
Rainwater pipe ... ... ,,	1 0	1 11	2 9
Gutter ... ... ,,	1 4	2 6	3 8

	Knot prime and stop	Add for each extra coat
On Woodwork :	s. d.	s. d.
General surfaces ... ... Yd. sup.	2 10	2 4
On work not exceeding 3 in. girth Yd. run	4½	3½
Add to last for every additional 3 in. in girth	3¼	2¾
Sash squares on one side ... ... Doz.	5 9	4 9
Large ,, ,, ,, ... ,,	8 10	8 4
Opening edges ... ... No.	9	8

		s. d.
Oiling Hardwood : Two coats with linseed oil... ...	Yd. sup.	1 5
Creosote : Two coats on woodwork	,,	1 7
Polishing—New Work :		
Staining and wax polishing hardwood	Ft. sup.	1 1½
Staining, bodying in and full french polishing on hardwood	,,	2 7
Old Work previously polished :		
Preparing old work and repolishing	,,	1 2
Stripping, preparing and repolishing	,,	3 2
Papering :		
Preparing, sizing and hanging lining paper	per piece	11 0
do. do. Wallpaper, p.c. 10s.	,,	20 1

Cure for headaches

Insulation headaches that is. This young man apparently with a load on his mind
is holding aloft a block of Shell's 'Styrocell' expanded polystyrene,
one of those clever and useful plastics that really belongs to tomorrow.
The great advantage of 'Styrocell' is that it combines more good qualities in one product
than does any other insulation material. Trapped within its structure
are millions of bubbles of still air which give it excellent insulation properties.
It is completely rot-proof, has low water vapour permeability, is strong and fantastically light.
Saw it, machine it—'Styrocell' behaves perfectly. And it can be moulded
into almost any shape you care to specify.

STYROCELL

The Marley Tile Company Limited are distributors of 'Styrocell' board
(under the trade name 'Marleycel') to the building industry

Shell Chemicals SHELL

Ask Shell Chemical Company Limited,
Plastics & Rubbers Division, 170 Piccadilly, London, W.1.

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THE BUILDER CURRENT PRICES

THE information given on these pages has been specially compiled for *The Builder* and is copyright. It is the intention that the details given should indicate fair average prices of materials, not necessarily the highest or the lowest. The prices apply to large quantities of materials loaded at works, delivered at London Stations or at site in London Area as stated. Prices for smaller quantities ex merchant's warehouse will necessarily be higher so as to include the stocking and handling costs involved. It is recommended that the prices of materials should be confirmed by inquiry from suppliers and merchants.

AGGREGATES AND SAND

Delivered site in full lorry loads. Average of prices for Boroughs of Westminster, Paddington, Holborn and St. Pancras.

		£	s.	d.
Pit Ballast	per yd.	1	5	5
Pit Sand	,,	1	3	8
Washed Sand	,,	1	6	9
¼ in. Shingle	,,	1	4	3
¼ in. Broken Brick	,,	1	0	9
Pan Breeze	,,	1	6	0
Fine or Coarse Foamed Slag Aggregate (2 yds. of fine and 2.6 yds. of coarse per ton.	per ton	3	8	0

CEMENT, etc.

Including non-returnable jute sacks or paper bags.

		£	s.	d.
Best British Portland Cement. Standard Specification delivered Charing Cross area.				
8-ton loads and upwards, site	per ton	5	16	0
Below 8 tons down to 4 tons, site	,,	6	8	0
Below 4 tons down to 2 tons, site	,,	6	12	0
Below 2 tons down to 1 ton, site	,,	6	14	0
Rapid-Hardening Cement in 8-ton loads and upwards to site	,,	6	6	6
Below 8 tons down to 4 tons, site	,,	6	18	6
Below 4 tons down to 2 tons, site	,,	7	2	6
Below 2 tons down to 1 ton, site	,,	7	4	0
Aquacrete Water Repellent Cement. 32s. 6d. per ton on ordinary cement prices.				
Sulphate Resisting Cement. 32s. 6d. per ton on ordinary cement prices.				
Red, Buff or Khaki Colocrete in 8-ton lots	,,	8	16	0
Other colours according to colour. In 4-ton lots from 313s. 3d. to 783s. 3d. per ton.				
White Portland Cement	,,	14	0	9
Under 1 ton	per cwt.		17	0
417 Cement (Ultra Rapid Hardening) in 8-ton lots and upwards	per ton	7	8	6
Super Cement (Waterproof), 32s. 6d. per ton above Portland Cement.				
Cullamix Tyrolean Finish, £11 13s.3d. to £14 8s.3d. (1-ton loads and upwards).				
Ciment Fondu and Lightning Brands High Aluminous cement, 6-ton lots and up	,,	15	14	6
Stourbridge Fireclay, 6-ton loads at Railway Depot, London	,,	6	19	0
Stourbridge Fireclay, 6-ton loads (London sites)	,,	7	12	0
Moler Mortar Powder for Flue Bricks (London sites)	per cwt.	1	6	0

BRICKS

Full Loads		£	s.	d.
First Hard Stocks	per 1,000	16	19	6
Second Hard Stocks	,,	14	18	6
Mild Stocks (Kiln Burnt)	,,	11	5	0
Mild Stocks	,,	11	0	0
All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job.				
2½ in. Nominal Fletton Bricks to sites in W.C. district :				
Commons	,,	6	10	0
Cellular Commons	,,	6	10	0
Keyed do.	,,	6	12	0
Rustics	,,	8	12	0
Cellular Rustics	,,	8	12	0
Single Bullnose Commons	,,	8	14	6
Sandfaced	,,	9	12	0
Tuscans	,,	10	7	0
Saxons	,,	10	15	0
Golden Buffs	,,	11	2	0
Dapple Light Facings	,,	11	9	6
Heather Facings	,,	11	5	0
Best Blue Pressed Staffs (London sites)	,,	34	0	6
do. Bullnose (London sites)	,,	34	19	6
Blue Wire Cuts (London sites)	,,	29	19	6
Midhurst Lime Bricks (London sites)	,,	11	16	6
Uxbridge Whites (London sites)	,,	12	3	6
Special Purpose Sandlime Bricks (London sites)	,,	9	2	0
Best Stourbridge Fire Bricks :				
2½ in. (London sites)	,,	33	6	9
3 in. (London sites)	,,	40	0	0
2¾ in. Moler Flue Bricks (London sites)	per 1,000	31	0	0
2½ in. Machine-made Sandfaced Red Facings (London sites)	,,	18	19	0
2½ in. Machine-made Multi Red Facings (London sites)	,,	19	4	0
2½ in. Hand-made Sandfaced Red Facings (London sites)	,,	20	17	6
2½ in. Hand-made Sandfaced Multi-Colour Facings (London sites)	,,	20	17	6
Hand-made Sandfaced Cherry Red Facings, Berkshire district (London sites)	,,	21	5	0
Hand-made Sandfaced Multi-Colour Facings, Berkshire district (London sites)	,,	21	5	0
Rubber Bricks for gauged arches (London sites)	,,	52	5	0
2½ in. Surrey Clamp Burnt Multi Stock Facings (London sites)	,,	16	15	0
2½ in. Surrey Kiln Burnt Multi Stock Facings (London sites)	,,	18	7	6
Glazed Bricks (London sites), White, Ivory, Brown:				
Stretchers	,,	64	0	0
Headers	,,	63	0	0
Quoins, Bullnose and 4½ in. Flats	,,	80	0	0
Double Stretchers	,,	85	0	0
Double Headers	,,	77	10	0
One side and two ends	,,	87	0	0
Two sides and one end	,,	89	10	0
Splays and Squints	,,	83	0	0
Cream and Buff, £3 extra over White. Other colours, hard glaze, £8 10s. 0d. extra over White. All above prices plus 47½% for Best quality and plus 47½% less 10% for Second quality.				

PARTITION SLABS, etc.

Delivered Central London Area. (W.C. District).

Hollow Clay Partition Blocks (Keyed) Minimum lorry loads		£	s.	d.
*2½ in. 140 yds.	per yd. sup.		4	7
Building Blocks (Keyed)				
*3 in. (6 cavity) 110 yds.	,,		5	9
*4 in. (6 cavity) 90 yds.	,,		7	3
6 in. (8½ in. × 5½ in.) 1,250 blocks	per 1,000	28	9	0
* Half blocks at no extra charge.				
Clinker Concrete				
2 in. 100 yds.	per yd. sup.		4	0
2½ in. 85 yds.	,,		4	7
3 in. 75 yds.	,,		5	8
4 in. 55 yds.	,,		7	0
Cranham Terra Cotta				
2 in.	,,		7	5
2½ in.	,,		8	4
3 in. Load bearing quality	,,		9	6
4 in. do. do	,,		11	6
Moler Partition Blocks				
2 in. 150 yds.	,,		12	9
2½ in. 120 yds.	,,		13	9
3 in. 100 yds.	,,		14	9
4 in. 90 yds.	,,		17	0
Lightweight Concrete Building and Partition blocks of Various Sources of Manufacture				
2 in. 100 yds.	per yd. sup.		5	4
2½ in. 80 yds.	,,		6	5
3 in. 65 yds.	,,		7	5
4 in. 50 yds.	,,		9	4
4½ in. 44 yds.	,,		10	2
6 in. 33 yds.	,,		14	5
Thermalite-Ytong Partition Blocks				
2½ in. 144 yds.	,,		7	0
Thermalite-Ytong Load-Bearing Insulating Blocks				
3 in. 120 yds.	per yd. sup.		8	5
4 in. 90 yds.	,,		11	0
5 in. 72 yds.	,,		13	9
6 in. 60 yds.	,,		16	6
8½ in. 42 yds.	,,	1	3	8
Floor Blocks and Filler Tiles				
Floor Blocks 12 in. × 12 in. delivered in full lorry-loads :				
3 in.	per 1,000	35	14	0
4 in.	,,	38	9	0
5 in.	,,	46	1	0
6 in.	,,	52	12	0
7 in.	,,	64	12	0
8 in.	,,	75	9	0
9 in.	,,	83	2	0
10 in.	,,	92	0	0
Filler Tiles in multiples of 10 tiles per 1,000 multiples :				
12 in. × 3 in. × ½ in.	,,	43	13	0
12 in. × 4 in. × ½ in.	,,	75	7	0
10 in. × 5 in. × ½ in.	,,	75	7	0

PLASTER & PLASTERBOARD

British Plaster and Boards Limited* manufacture and distribute, on a nation-wide basis, the finest range of plasters and plasterboards. You can rely on the **Thistle, Paramount,** and **Carlite** ranges–all backed by a thoroughly practical technical service.

* *Incorporating*

THE BRITISH PLASTER BOARD (MANUFACTURING) LIMITED
THE GOTHAM COMPANY LIMITED
THE CARLISLE PLASTER & CEMENT COMPANY
THOMAS McGHIE & SONS LIMITED
THE LONG MEG PLASTER & MINERAL COMPANY LIMITED
MARBLAEGIS LIMITED

British Plaster and Boards Limited

Ferguson House, 15-17 Marylebone Road, London NW1
Telephone: HUNter 4021

STONEWARE DRAIN PIPES, etc.

Glazed Stoneware Standard List (November, 1956).

		4 in.	6 in.	9 in.
Pipes, 2 ft. lengths	per ft.	1/8	2/6	4/6
Bends	each	5/–	7/6	20/3
Junctions	„	8/4	12/6	27/–
Gullies with 4 in. outlets	„	12/6	13/9	22/6

The following are the percentages to be added to the Standard List (November, 1956) prices delivered London Area.
Delivered ex Merchants Wharf or Depot.

	Over 2 tons	Over 100 pieces Under 2 tons	Under 100 pieces Under 2 tons
Best Quality	NET	+22½%	+27½%
BSS Best Quality	+10 % NET	+10 %+22½%	+10 %+27½%
Tested Quality	+37½% NET	+37½%+22½%	+37½%+27½%
BSS Tested Quality	+47½% NET	+47½%+22½%	+47½%+27½%

		£	s.	d.
3 in. Land Drain Pipes (in 12 in. lengths)	per 1,000	12	10	6
4 in. do. do.	„	16	16	0
6 in. do. do.	„	34	10	0
9 in. do. do.	„	64	19	0

DAMP COURSE

		£	s.	d.
Hessian base bitumen 7 lb. per yd. sup. in 24 ft. rolls cut to wall widths in lots of £6 value and over delivered London area	per yd. sup.		3	11
Asbestos base do. 7 lb. per yd. sup.	do. do. „		5	5
Lead lined bitumen do. 9½ lb. per yd. sup.	do. do. „		12	4½
18 in. × 9 in. British damp course slates	per 1,000	43	8	11
14 in. × 9 in. do. do.	„	32	8	2
9 in. × 9 in. do. do.	„	18	18	9
18 in. × 4½ in. do. do.	„	19	19	9
14 in. × 4½ in. do. do.	„	15	18	3
9 in. × 4½ in. do. do.	„	10	14	3

STONE

		£	s.	d.
Bath Stone				
Monks Park	per ft. cube		11	1
St. Aldhelm Box Ground	„		12	4
Delivered in railway trucks at South Lambeth B.R. Western Region.				
Doulting Stone Random Blocks. Delivered London area	„		11	8
Beer Stone. Delivered London area	„		11	4
Portland Stone—				
Brown Whitbed in random blocks, 20 ft. average delivered in railway trucks at Nine Elms, B.R. Southern Region	„		10	8
Yorkshire Stone—Blue Robin Hood Quality. Delivered to site London in 6-ton lots.				
9 in. × 3 in. Rubbed, weathered, throated and stolled cills	per ft. cube	4	14	5
12 in. × 6 in. do. do. do.	„	3	7	3
12 in. × 3 in. Plain coping, twice throated	„	2	12	3
12 in × 3 in. Weathered and twice throated coping	„	3	9	6
14 in. × 6 in. do. do. do.	„	3	2	9
4½ in. × 9 in. Plinth rubbed on top and face	„	2	16	1
3 in. sawn two sides Slabs, random sizes	per ft. sup.		10	0
Templates and Cover Stones, 3 in., 4 in. and 6 in. thick, edges coped for rendered brickwork	per ft. cube	1	14	6
do. do. fair one edge for fair faced brickwork	„	2	0	9
Hard York—				
12 in. × 2 in. Square Steps, rubbed on top and edge	per ft. run		12	2
14 in. × 3 in. Round-nosed Steps, rubbed on top and front	per ft. cube	3	4	0
12 in. × 6 in. Plain Steps, rubbed top and front	„	2	16	1
2 in. Rubbed and Jointed Paving, given sizes	per ft. sup.		11	3
2 in. Sawn Paving, edges squared, in random sizes	per yd. sup.	3	19	3

TILES AND PANTILES

Delivered London area by road in 6 tons or over per 1,000.

	£	s.	d.
Machine-made Pantiles and French pattern Tiles from Lincolnshire district	35	16	6
Hand-made Pantiles Berkshire district	64	10	0
Hand-made Double Roman Bridgwater district	78	2	9
Hand-made 10½ × 6½ tiles Berkshire district	18	0	0
Machine-made 10½ × 6½ Staffordshire district	17	0	0
Hand-made Hip and Valley tiles per doz.	1	13	0
Machine-made Hip and Valley tiles do.	1	12	0
Concrete tiles 10½ × 6½	8	10	0
do. Interlocking (49S)	19	16	6

NOTE.—Breakage in transit, purchasers' responsibility.

SLATES

First-quality Slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate station. Per 1,000 actual.

	£	s.	d.
24 × 12	160	4	0
22 × 12	126	15	0
22 × 11	114	15	0
20 × 12	107	5	0
20 × 10	105	0	0
18 × 10	71	5	0
18 × 9	62	14	0
16 × 10	54	15	0
16 × 8	42	18	0

NOTE.—Breakage in transit, purchasers' responsibility.

TIMBER

		Ex	per	£	s.	d.
Softwood						
Joinery quality		Wharf	standard	£115 to £140		
Carcassing quality		do.	„	£94 — £98		
1 in. Tongued and Grooved Flooring		do.	„	£112	0	0
Hardwood				£	s.	d.
Mahogany—African S.E.		do.	per ft. cube	1	17	6
do. Honduras S.E.		do.	„	3	5	0
Oak European S.E.		do.	„	2	10	0
do. Japanese S.E.		do.	„	3	0	0
do. English Logs sawn		do.	„	2	0	0
Teak 8 in. average S.E.		do.	„	3	17	6
Walnut African Logs sawn		do.	„	1	2	6
Plywood			per			
6 mm. (¼ in.) Birch Plywood B/BB			100 sq. ft.	4	3	6
6 mm. Israeli Gaboon do. B/BB exterior grade WBP (AX100)			„	4	5	3
18 mm. Birch Blockboard			„	9	7	0
¾ in. Douglas Fir Plywood 96 in. × 48 in. Exterior grade WPB (AX100) solid two sides			„	9	3	0

DOORS (in Lots I-II)

		£	s.	d.
Delivered London area.				
1¾ in. 4 Horizontal Panel. Pattern 4 in. deal				
2 ft. 0 in. × 6 ft. 6 in.	each	1	16	0
2 ft. 3 in. × 6 ft. 6 in.	„	1	17	6
2 ft. 6 in. × 6 ft. 6 in.	„	1	18	6
2 ft. 9 in. × 6 ft. 6 in.	„	2	0	6
2 in. do. but top panel open. Pattern 4 × G in deal				
2 ft. 6 in. × 6 ft. 6 in.	„	2	9	0
2 ft. 9 in. × 6 ft. 6 in.	„	2	11	6
2 in. 2 Panel top panel open. Pattern 2 × G in deal				
2 ft. 6 in. × 6 ft. 6 in.	„	2	3	0
2 ft. 9 in. × 6 ft. 6 in.	„	2	5	0
1¾ in. Plywood Faced Flush Doors to BS459, Part 2A				
2 ft. 0 in. × 6 ft. 0 in.	„	1	12	3
2 ft. 0 in. × 6 ft. 6 in.	„	1	12	3
2 ft. 3 in. × 6 ft. 6 in.	„	1	13	9
2 ft. 6 in. × 6 ft. 6 in.	„	1	15	3
2 ft. 9 in. × 6 ft. 6 in.	„	1	18	0
1¾ in. Hardboard Faced Flush Doors				
2 ft. 0 in. × 6 ft. 0 in.	„	1	5	6
2 ft. 0 in. × 6 ft. 6 in.	„	1	6	0
2 ft. 3 in. × 6 ft. 6 in.	„	1	6	6
2 ft. 6 in. × 6 ft. 6 in.	„	1	8	6
2 ft. 9 in. × 6 ft. 6 in.	„	1	9	6

SUNDRIES

		£	s.	d.
Delivered London area.				
1 in. Wood Wool Slabs 6 ft. 0 in. × 2 ft. 0 in. in quantities of 1 ton (89 yds. to 1 ton)	per yd.		6	2
1½ in. do. (67 yds. to 1 ton)	„		8	0
2 in. do. (52 yds. to 1 ton)	„		9	9½
2½ in. do. (45 yds. to 1 ton)	„		11	3
3 in. do. (39 yds. to 1 ton)	„		12	7½
¼ in. imported or home produced insulation Board, quantities over 5,000 sq. ft.	per 100 sq. ft.	2	2	6
¼ in. Hardboard do.	„	1	17	6
⅛ in. do. do.	„	2	4	6
2 in. Compressed Straw Slabs, roofing quality. 6 ft., 8 ft., 9 ft., 10 ft., and 12 ft. × 4 ft.				
50–100 yds.	per yd. sup.		11	4
101–250 yds.	„		10	10
251–750 yds.	„		10	1
Over 750 yds.	„		9	4
2 in. do. for partitions 4d. per yd. cheaper.				
⅛ in. Asbestos Flat Building Sheets	„		4	3½
¼ in. do. do.	„		6	0
Roofing Felt 1-ply	„		1	9
do. 2-ply	„		2	2½
Best Scotch Glue in slabs	per ½ cwt.	5	3	9
do. pearl	„	5	3	9
Croid Glue	28 lb.	2	6	0
Impact Adhesive	per gall.	2	12	0
Cut Nails 3 in. (1-ton lots)	per ton	84	10	0
do. 4 in. and up (1-ton lots)	„	81	0	0
Wire Nails 3 in. (4-cwt. lots)	per cwt.	4	2	1
do. 4 in. and up (4-cwt. lots)	„	3	19	3

METALS

STEEL JOIST, ETC.

		£	s.	d.
Basis Joists—				
6 in. × 5 in., 8 in. × 5 in., 8 in. × 6 in., 10 in. × 6 in., 12 in. × 6 in., plain cut to lengths delivered London area	per ton	47	15	0
Extra for sizes				
3 in. × 1½ in. 4 in. × 1¾ in.	„		3	10	0
3 in. × 3 in.	„		2	10	0
4 in. × 3 in.	„		2	5	0
10 in. × 4½ in.	„		1	10	0
5 in. × 2½ in. 5 in. × 3 in.	„		1	15	0
4½ in. × 1½ in.	„		3	5	0
5 in. × 4½ in. 7 in. × 3½ in. 13 in. × 5 in.	„			15	0
6 in. × 3 in. 24 in. × 7½ in.	„		2	0	0
6 in. × 4½ in. 7 in. × 4 in. 8 in. × 4 in.	„		1	5	0
9 in. × 4 in. 10 in. × 5 in.					
12 in. × 5 in. 22 in. × 7 in.	„		1	0	0

METALS—*continued*

		£ s. d.
9 in. × 7 in. 10 in. × 8 in. 12 in. × 8 in. / 14 in. × 5½ in. 14 in. × 6 in. 14 in. × 8 in. / 15 in. × 5 in. 15 in. × 6 in. 16 in. × 6 in.	per ton	10 0
16 in. × 8 in. 18 in. × 6 in. 18 in. × 7 in. / 18 in. × 8 in. 20 in. × 6½ in. 20 in. × 7½ in.	,,	10 0
Steel angles average price	,,	48 15 0
Steel tees average price	,,	49 15 0
Fabricated work delivered London—		
R.S. Joists cut and fitted...	,,	67 19 0
Compound girders	,,	72 14 3
Stanchions	,,	78 9 9
Compound stanchions	,,	83 4 3
In Roof Work—Trusses and Purlins	,,	93 19 6
Average prices not for awkward work.		
Angle cleats and ⅝ in., ¾ in. and ⅞ in. bolts average price London area	per cwt.	5 10 0
Above prices joists etc. increased by 1·1%.		

Ferro-Concrete Bars and Fabric

		£ s. d.
Mild Steel Ferro-Concrete Bars British manufacture to BSS 785 ex. Mills. 1 in. diameter and upwards delivered nearest London station ...	per ton	40 10 0
do. do. ex. London Stock do. delivered London site	,,	49 10 0
Extras—		
¾ in. diam....	per ton extra	8 12 6
⅝ in. do.	,,	6 12 6
½ in. do.	,,	4 12 6
⅜ in. do.	,,	3 2 6
¼ in. do.	,,	1 10 0
⅛ in. and ¾ in. diam.	,,	15 0
Above prices mild steel bars increased by 1·1%.		
Steel wire mesh reinforcing fabric to BSS 1221A.		
Ref. No. 106 ... ... 7.88 lbs.	per sq. yd.	5 2½
,, ,, 109 ... ... 4.71 ,, ...	,,	3 0½
,, ,, 113 ... ... 1.83 ,, ...	,,	1 8½
,, ,, 122 ... ... 7.32 ,, ...	,,	4 10½
,, ,, 125 ... ... 4.32 ,, ...	,,	2 10½

Mild Steel Tubes

Tubes to BSS 1387. Fittings BSS 1740.

Basic List Prices

	¼ in.	⅜ in.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Tubes ... ... per ft.	9½	10	1/–	1/2½	1/9	2/3	2/8	3/9
Bends ... ... each	1/7	1/9	2/–	2/6	3/8	5/5	6/2	10/7
Elbows, square ,,	1/8	1/10	2/2	2/6	3/–	4/4	5/2	8/6
do. round ,,	1/10	2/–	2/4	2/10	3/4	4/8	5/8	9/4
Tees ... ... ,,	2/–	2/2	2/6	3/2	3/8	5/–	6/2	10/2
Crosses... ... ,,	4/4	4/8	5/6	6/6	8/2	11/–	13/2	21/–
Sockets, Plain ,,	6	6	8	10	1/–	1/4	1/9	2/6
do. Diminished ,,	8	10	1/–	1/2	1/6	2/–	2/8	4/–
Backnuts ... ,,	4	4	6	7	10	1/–	1/4	2/2

Malleable Fittings

	¼ in.	⅜ in.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Elbows, round each	8½	8½	9½	1/2½	1/8½	2/7½	3/6	5/–
Tees ... ... ,,	9½	9½	1/–	1/4½	2/–	2/9½	4/–	5/6
Crosses... ... ,,	1/2½	1/2½	1/4½	2/–	2/9½	3/7½	5/2½	7/2½
Sockets... ... ,,	5½	5½	7	9½	1/–	1/7½	2/2½	3/1½
Backnuts ... ,,	3	3	3½	4½	5½	7½	10½	1/5½

Discounts from List prices as follows :—

Galvanised Tube—	Under 1 ton	Over 1 ton	W.I. Fittings	Malleable Fittings
Light	−37½%	−39 %	Light −24½%	Malleable List
Medium	−33½%	−35 %	Heavy −20½%	−14%+40%
Heavy	−25½%	−27½%		
Black—				
Light	−47 %	−48½%	Light −30½%	Malleable List
Medium	−43 %	−44½%	Heavy −26½%	−14%
Heavy	−35½%	−37 %		

C.I. Half-Round Gutters

Delivered London per yd. in 6 ft. lengths.

	Gutters	Nozzles	Stop Ends
3 in.	4/4½	3/10	1/1
3½ in.	4/9	4/2	1/1
4 in.	6/1½	4/9	1/8
4½ in.	6/9	5/4	2/–
5 in.	7/6	5/9	2/4

C.I.O.G. Gutters

Per yd. in 6 ft. lengths :	Gutters	Nozzles	Stop Ends
3 in.	5/7½	5/1	1/4
3½ in.	6/3½	5/1	1/8
4 in.	6/11½	5/4	2/–
4½ in.	7/6	6/1	2/4
5 in.	8/2½	7/–	2/8

C.I. Rain-Water Pipes

	Pipes	Bends	Branches
2 in.	9/4	4/9	6/10
2½ in.	9/4	5/4	9/2
3 in.	10/6	6/8	9/11
3½ in.	11/10	7/10	11/11
4 in.	13/9½	9/6	14/2

L.C.C. Coated Soil Pipes

2 in.	10/7	8/2	9/11
2½ in.	11/2	9/1	12/4
3 in.	12/6½	9/11	14/8
3½ in.	14/–½	12/4	17/1
4 in.	15/11½	13/10	20/3

Above prices for gutters, rain-water and soil pipes for under 5-cwt. lots only. Lots over 5 cwt. see List No. 3300, dated February 1, 1955, plus 32½% and tonnage allowance. 4-ton lots 5%, 2-ton lots 2½%.

L.C.C. Coated Drain Pipes

	£ s. d.
4 in. diameter in 9 ft. lengths ... ... per yd. run	1 11 1
6 in. do. do. ... ... ,,	2 5 6
4 in. diameter bends ... ... each	1 0 6
6 in. do. do. ... ... ,,	2 14 9
4 in. diameter branches ... ... ,,	1 16 6
6 in. do. do. ... ... ,,	4 7 6
Above prices for any quantity but under 5 cwt. carriage extra.	

Pitch Fibre Drain Pipes

	£ s. d.
2 in. diameter in 5 ft., 5 ft. 6 in. or 8 ft. lengths including couplings ... ... per ft. run	1 6½
3 in. do. ... ... ,,	1 10½
4 in. do. ... ... ,,	2 6
5 in. do. ... ... ,,	4 1½
6 in. do. ... ... ,,	5 0½
4 in. diameter short radius ¼ bends ... ... each	17 9
4 in. do. do. ⅛ bends ... ... ,,	12 11
2 in. diameter 6 ft. radius bends (5 ft. lengths) ,,	17 0
3 in. do. do. do. ,,	19 8
4 in. do. do. do. ,,	1 7 4
5 in. do. do. do. ,,	2 4 0
6 in. do. do. do. ,,	2 14 6
Above prices for loads of £60 and over. Loads £25 to £59 19s. 11d. Plus 10% Loads under £25 ... Plus 15%	

Asbestos Rain-Water Pipes and Fittings

All less 17½% discount.	2 in.	2½ in.	3 in.	4 in.
Pipes, 6 ft. lengths ... ... per yd.	4/7	4/10½	5/11	7/10
Shoes ... ... each	3/–	3/3	3/10	5/2
Single Branches ... ... ,,	4/8	5/6	6/7	9/2
Bends, squares or obtuse ... ,,	3/3	3/7	4/8	6/7
Swan Necks, 4½ in. proj.... ,,	3/7	4/8	5/2	7/3
do. 6 in. do. ... ,,	3/10	5/2	5/10	7/10

Asbestos O.G. Gutters and Fittings

	4 in.	4½ in.	5 in.	6 in.
Gutters, 6 ft. lengths ... per yd.	4/4	4/9½	5/9	6/10½
Drop ends ... ... each	3/6	4/–	4/9	5/5
Stop ends ... ... ,,	1/1	1/2	1/3	1/5
Angles ... ... ,,	3/7	4/1	5/–	5/10
Nozzles ... ... ,,	3/6	4/–	4/9	5/–
Union Clips ... ... ,,	1/9	2/1	2/6	2/11

Asbestos Half-Round Gutters and Fittings

	per	3 in.	4 in.	4½ in.	5 in.	6 in.
Gutters, 6 ft. lengths	yd.	3/0½	3/7½	3/8½	4/4½	6/1
Drop ends	each	2/6	3/–	3/3	3/7	5/2
Stop ends	,,	1/–	1/1	1/2	1/3	1/5
Angles	,,	2/10	3/3	3/7	3/10	5/2
Nozzles	,,	2/6	3/–	3/3	3/7	5/2
Union Clips	,,	1/3	1/4	1/5	1/7	2/5

	Per ton basis in London £ s. d.
Iron—Staffordshire Crown Merchant Quality	52 17 6
Mild Steel Bars	47 18 0
Mild Steel Hoops	49 10 0
	Ex Merchant's Stock per ton Two-ton lots £ s. d.
Soft Sheets C.R. and C.A.—	
20 gauge	63 0 0
24 gauge	65 10 6
26 gauge	68 11 0
Galvanised Corrugated Sheets, 6-ft. to 9-ft.—	
20 gauge	70 18 0
24 gauge	74 9 0
26 gauge	79 15 0
Galvanised Flat Sheets C.R. and C.A.—	
20 gauge	72 8 6
24 gauge	75 19 0
26 gauge	81 5 0

ALUMINIUM AND ALUMINIUM ALLOYS

(Base Prices)		£ s. d.
Sheet BS 1740 S1C 18 SWG (36 in. wide)... ...	per lb.	3 0½
Sheet BS 1470 NS3 Utility 18 SWG (36 in. wide)	,,	2 11½
Coiled strip BS 1470 S1C 18 SWG (24 in. wide)	,,	2 11½
Coiled strip BS 1470 NS3 Utility 18 SWG (24 in. wide)...	,,	2 11
Coiled strip high purity, 22 SWG (12 in. wide)	,,	3 2
Corrugated sheet BS 1470 NS3 Circular Profile 8 ft. × 32 in. × 20 SWG	per sheet	1 14 1
Corrugated sheet BS 1470 NS3 Industrial Profile 8 ft. × 31¾ in. × 20 SWG	,,	1 19 10
Corrugated sheet BS 1470 NS3 Mansard Profile 8 ft. × 31¾ in. × 20 SWG	,,	1 13 1
Extruded section BS 1476 E1C simple moulding	per lb.	2 10½
Extruded section BS 1476 E1C 1 in. diam. round	,,	2 8
Extruded section BS 1476 HE19WP simple angle	,,	3 2
Extruded section BS 1476 HE19WP 1 in. diam. round	,,	3 1
Tubing BS 1471 T1C 1¼ in. O/D × 20 SWG ...	,,	4 8
Tubing BS 1471 HT19WP 1¼ in. O/D × 20 SWG	,,	6 3

PLUMBERS' BRASS WORK, etc.

Delivered in London area.

All per dozen	B.S.S. ¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.
Screwdown bib cocks Crutch head for iron...	87/–	128/–	—	—	—	—
Toilet bib cocks for iron ...	109/–	158/5	—	—	—	—

PLUMBERS' BRASS WORK, etc.—*continued*

All per dozen	¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.
Screwdownstopcocksforiron	66/–	95/9	188/–	363/–	522/6	917/6
do. with two unions for lead	89/–	132/–	234/4	472/–	623/6	1,389/6
Double nut boiler screws ...	18/8	26/5	47/6	48/6	67/–	93/6
Heavy Croydon ball valves	77/–	193/6	312/5	568/8	734/10	—
Plumbers' union brass lead to iron	19/6	23/6	38/6	52/10	70/6	165/–
	1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
Caps and Screws	33/–	40/8	59/6	92/5	118/10	155/3
Brass Sleeves	—	31/11	31/11	56/2	74/10	91/5
		1½×6 lb.	1½×6 lb.	2×7 lb.		3×7 lb.
Lead P. trap with brass cleaning screws		68/6	85/6	137/–		233/9
Lead S. trap do. do.		82/9	102/9	168/3		302/3

Solder :			s.	d.
Plumbers' ...	1 cwt. lots	320/–	14 lb. lots per lb.	3	7
Tinmen's	,, ,,	404/–	,, ,, ,,	4	5
Blow pipe	,, ,,	407/–	,, ,, ,,	4	6

Copper Tubes and Sheets

Copper tubes BSS 659/1944 on the basic price of 27⅛d. per lb. plus gauge and manufacturing extras as follows. Minimum quantities, 10 cwt.

	Extra d.	Total per lb. d.	Approx. per ft. d.
¼ in. × 19 gauge	16½	43⅙	11⅛
⅜ in. × 19 ,,	14⅝	42	16½
1 in. × 18 ,,	12⅞	40½	25
1¼ in. × 18 ,,	12⅞	39⅞	30¼
1½ in. × 18 ,,	12⅞	39⅞	36¼
2 in. × 17 ,,	13⅛	41⅛	58

Small Quantity extras :

10 cwts. to 5 cwts.	plus ½d. per lb.
5 cwts. to 2 cwts.	,, 1d. ,,
2 cwts. to 1 cwt.	,, 2d. ,,

Rolled Copper sheets up to 48 in. wide, basic price plus gauge and manufacturing extras ... ... £ 267 s. 10 d. 0

Zinc

			£	s.	d.
Sheet Zinc, 10 gauge (25 SWG),	5 cwt. lots upwards	per cwt.	8	6	6
,, ,, 12 gauge (23 SWG),	,, ,, ,,	,,	8	4	0
,, ,, 14 gauge (21 SWG),	,, ,, ,,	,,	8	2	9

Brass Tube

Brass tubes, basic price, plus gauge and manufacturing extras ... ... per lb. 1 10

LEAD SHEET AND PIPES

Basis selling price to one address in London or Home Counties :

		£	s	d.
Lead Sheet, English, 3½ lb. substance and upwards	per ton	100	5	0
,, Water Pipe, in coils	,,	102	10	0
Lead Soil Pipe, 10 ft. or over 2 in. to 4 in. in dia.	,,	104	0	0
,, ,, ,, over 4 in. dia.	,,	106	0	0
,, Gas or Untinned Compo pipe...	,,	104	0	0

5 cwt. lots and over less 6d. per cwt. off basic prices.

Extras over Basis for quantities under 5 cwt. :

3 cwt. and under 5 cwt.	per cwt.	4 0
1 cwt. do. 3 cwt.	,,	6 0

Smaller quantities than 1 cwt. priced specially.

Supplying sheet lead and lead pipes to less than basis weights and cutting to sizes less than basis charged extra according to current trade schedule.

Allowance for Old Lead, collected, £53 0s. 0d. per ton weighed at buyer's works.

PLASTER, etc.

		£	s.	d.
Coarse Pink in 1-ton loads and over delivered on site	per ton	8	15	0
do. White do. do.	,,	9	4	9
Sirapite Coarse BSS 1191 Class C do.	,,	9	6	9
do. Fine do. do.	,,	9	14	9
do. Browning BSS 1191 Class B do.	,,	9	6	9
do. Board Finish do. do.	,,	9	6	9
Blue Lias Lime, in 6-ton loads	,,	6	17	6
Hydrated Lime (Grey) in 6-ton loads	,,	6	2	0
do. (White) do.	,,	6	12	0
Lump Lime (Grey) do.	,,	5	19	0
do. (White) do.	,,	6	6	6
White Keen's or Parian Cement, in 1-ton loads ...	,,	12	13	0
Pink Keen's or Parian Cement, in 1-ton loads ...	,,	12	7	9
Granite Chips, in 6-ton loads	,,	2	6	9
Hair	per cwt.	4	17	6
Gypsum Plaster Lath or Base Board, ⅜ in. thick, 600 yds. and over in one delivery. Delivered site	per yd.	2	2	2½
1,200 yds.	,,	2	1	1½
do. Insulating do. ½ in. thick, 600 yds. and over in one delivery. Delivered site	,,	2	8	
1,200 yds.	,,	2	7	
Gypsum Plaster Wall Boards, 3 and 4 ft. wide 6 to 12 ft., ½ in. thick, 600 yds. and over in one delivery. Delivered site	,,	2	5	5½
1,200 yds.	,,	2	4	4½
do. Insulating do. ½ in. thick, 600 yds. and over in one delivery. Delivered site	,,	2	11	
1,200 yds.	,,	2	10	

PAINTS AND DISTEMPER

Delivered London area.		£	s.	d.
Ceiling Distemper	per cwt.	1	7	6
Washable Distemper	,,	5	18	0
Gloss Paint	per gal.	2	18	0
Super Snowcem cement paint (in 1 cwt. drums) ...	per cwt.	5	0	0

Lead Products and Oils

		£	s.	d.
Ground White Lead, in 1 cwt. kegs	per cwt.	8	7	6
Genuine White Lead Paint, 1-19 gal. lots in 1 gal. tins	per gal.	3	6	6
Genuine Red Lead, Dry, (1 cwt. lots)	per cwt.	6	17	0
Genuine Linseed Oil Putty, 1 cwt. keg	,,	2	13	6
Size XD quality 28 lb.	per tin		9	0
Raw Linseed Oil (5 gal.) drums extra	per gal.		16	9
Boiled Linseed Oil (5 gal.) do.	,,		17	8

Sundries

Turpentine substitute (5 gal.) drums extra ...	,,	5	4½
do. do. (40 gal.) do.	,,	4	8½
Solignum, Brown (5 gal. cans) Exterior	,,	10	0
Creosote (40 gal. barrels)	,,	2	3
Paste Powder (1 lb. packets)	per lb.	2	4
White Lining Paper	per piece	1	4

VARNISHES, etc.

Delivered London area.		£	s.	d.
Oak Varnish, Outside or Inside	per gal.	2	0	0
Oak, Pale Copal do. do.	,,	2	0	0
Hard Drying Oak for Inside	,,	2	5	0
Crystal Paper Varnish do.	,,	2	8	0
Eggshell Flat Varnish do.	,,	2	2	0
Finest Carriage Varnish	,,	2	7	0
Front Door Varnish	,,	2	4	0
Japan Gold Size	,,	1	12	0
Black Japan	,,	1	16	0
Brunswick Black	,,	1	12	0
Berlin Black	,,	1	10	0
Terebene	,,	1	12	0
Knotting (1 gal. bottles free)	,,	1	15	0
French and Brush Polish (do.)...	,,	1	15	0

GLASS

Delivered London area.		s.	d.
18 oz. Sheet Glass Ordinary Glazing Quality—Cut Sizes...	per ft. sup.		10
24 oz. do. do. do. do.	,,	1	0½
26 oz. do. do. do. do.	,,	1	3
32 oz. do. do. do. do.	,,	1	7½
¼ in. Rolled Plate...	,,	1	3½
⅜ in. Rolled and Rough Cast...	,,	1	6½
½ in. do. do.	,,	1	7½
⅛ in. Figured Rolled and Cathedral, Standard patterns—White Group 1	,,	1	3½
do. Group 2	,,	1	9½
do. Standard Tints	,,	2	1½
do. Special Tints	,,	7	3
¼ in. Pinstripe, Hammerstripe, Reeded, Reedlyte and Luminating Group 3	,,	1	8½
⅜ in. Wired Cast up to 50 in.	,,	1	10½
½ in. do. do. 50 in. to 72 in.	,,	2	2½
¼ in. Georgian Wired Cast	,,	1	11

Hollow Glass Blocks—

P.B.2 Cross reeded	5⅜×5⅜×3⅞ in.	each	3 9
P.B.3 Broad reeded	7⅜×7⅜×3⅞ in.	,,	5 9
P.B.32 Cross reeded	7⅜×7⅜×3⅞ in.	,,	5 9
P.B.4 Prismatic	7⅜×7⅜×3⅞ in.	,,	6 6
P.B.5 Flemish	7⅜×7⅜×3⅞ in.	,,	5 9
P.B.6 Boomerang	7⅜×7⅜×3⅞ in.	,,	6 6

Half Size Blocks—

P.B.32 Cross reeded	7⅜×3⅞×3⅞ in.	,,	4 10

Radiused Corner Blocks to match up with—

P.B.2 Cross reeded		,,	8 1
P.B.3 Broad reeded		,,	9 8
P.B.32 Cross reeded		,,	9 8

P.B.2, P.B.3, P.B.32 are also supplied in Light Diffusing Blocks at same price.

¼ in. Polished Plate Glass, G.G. quality—			
In plates not exceeding	2 ft. sup.	per ft. sup.	4 7
,, ,, ,,	5 ft. sup.	,,	5 7
,, ,, ,,	45 ft. sup.	,,	7 6
,, ,, ,,	100 ft. sup.	,,	7 6

¼ in. Polished Plate, extra sizes, i.e., plates exceeding 100 ft. sup. or 160 in. one way or 96 in. both ways. G.G. quality—Not exceeding 135 ft. sup. or 240 in. one way or 130 in. both ways ...		,,	11 4
Not exceeding 180 ft. sup. or do.		,,	15 0

Plates exceeding 180 ft. sup. prices on application.

Substances other than ¼ in. Polished Plate at Special Prices.

Quantity Tariff—Sheet and Sundry Glass.

The following prices apply to minimum quantities of one size and one pattern delivered by the manufacturer to one site at one time.

Description of Glass—	Minimum quantity	per ft. sup. s.	d.
18 oz. sheet O.Q.	3,000		7½
24 oz. ,, ,, ...	2,000		9½
26 oz. ,, ,, ...	2,000		11½
32 oz. ,, ,, ...	2,000	1	3½
¼ in. Rolled Plate...	1,000		10½
⅛ in. Figured Rolled and Cathedral Standard Patterns, White Group 1	1,000		10½
do. Group 2	1,000	1	2½
¼ in. Pinstripe, Hammerstripe, Reeded, Luminating and Spotlyte Group 3	1,000	1	2½
⅜ in. Rolled Plate or Rough Cast	2,000	1	2
½ in. do. do.	2,000	1	2½
¼ in. Wired Cast, Hexagonal up to 50 in. ...	2,000	1	5
¼ in. do. do. do 50 in. to 72 in. ...	2,000	1	9
½ in. Georgian Wired Cast	2,000	1	5½

THE BUILDER RATES OF WAGES

AS FROM OCTOBER 2nd, 1961. (Every endeavour is made to ensure accuracy but we cannot be responsible for errors.)

1. Craftsmen and Labourers.

Region	Craftsmen	Labourers
	s. d.	s. d.
England & Wales (Grade A) ...	5 6	4 10½
London	5 7½	5 0
Liverpool and District ...	5 7½	5 0
Scotland... ...	5 6	4 10½

2. Apprentices.

Age	Per cent of Craft Rate	London and Liverpool Dist.	England, Wales (Grade A)
		s. d.	s. d.
15	25	1 5	1 4½
16	33½	1 10½	1 10
17	50	2 9½	2 9
18	62½	3 6½	3 5½
19	75	4 2½	4 1½
20	87½	4 11½	4 9½

3. Young Male Labourers.

Age	Per cent of Craft Rate	London and Liverpool Dist.	England, Wales and Scotland
		s. d.	s. d.
15	33½	1 8	1 7½
16	45	2 3	2 2½
17	66⅔	3 4	3 3
18	100	5 0	4 10½

NORTHERN IRELAND is not included; rates fluctuate so much from district to district that reference should be made to local offices.
WATCHMEN.—The rates per shift for watchmen engaged on building sites is 30s. 6d. in London and Liverpool District, and 29s. 3d. in the provinces.
FEMALE OPERATIVES.—In all districts throughout the country except in Scotland the rate of wages for women, aged 19 and over, engaged in craft processes is 4s. 7½d. per hour. Women engaged on work other than craft processes, 4s. 3½d. per hour. In Scotland the rate for the woman craftsman is 4s. 10½d. after a probationary period, and the woman labourer, 4s. 4½d.

New Companies

THE FOLLOWING NEW COMPANIES, registered in England, have been announced by Jordan and Sons, Ltd., company registration agents.

J. L. A. WHITE & SON LTD.—Regd. Nov. 8. Bldrs., etc. Nom. cap.: £1,000 Dir.: John W. White, 62 William Way, Letchworth.

KIRK DEVELOPMENTS (PADIHAM) LTD.—Regd. Nov. 8. Bldrs., etc. Nom. cap.: £1,000. Sub.: Margaret B. Braithwaite, 78 Birkby Lodge-rd., Birkby, Huddersfield.

T.K.G. (BUILDERS) LTD.—Regd. Nov. 9. 170 Colney Hatch-la., N10. Secy.: K. G. Fielder. Nom. cap.: £100.

BEECH HILL MAINTENANCE CO. LTD. Regd. Nov. 10. Bldrs., etc. Nom. cap.: £100. Dir.: Mrs. June A. Fryer, 31 Beech Hill, Hadley Wood, Herts.

W. HOWE & SON LTD.—Regd. Nov. 10. The Offices of Lanham & Francis Newbury, Gillingham, Dorset. Secy.: D. A. S. Hodge. Bldrs., etc. Nom. cap.: £10,000.

AUSTEN M. BLOY LTD.—Regd. Nov. 10. 65 Town-st., Shepton Mallet. Secy.: Ann Bloy, Bldrs., etc. Nom. cap.: £100.

F. & W. BUGDEN BROS. LTD.—Regd. Nov. 13, 165 Harefield-rd., Uxbridge, Mdx. Secy.: W. Bugden. Bldrs., etc. Nom. cap.: £100.

R. A. BRYDON LTD.—Regd. Nov. 13. 83 Old-rd., Baglan, Port Talbot. Secy.: Margaret E. Brydon. Bldrs., etc. Nom. cap.: £1,000. Dirs.: Robert A. Brydon and Margaret E. Brydon, 83 Old-rd., Baglan.

R. NEVILL LTD.—Regd. Nov. 13. 41 Hammy-way, Shoreham, Sussex. Secy.: R. V. Nevill. Bldrs., etc. Nom. cap.: £100. Dir.: Raymond V. Nevill, 41 Hammy-way, Shoreham, Sussex.

A. P. PEARSON LTD.—Regd. Nov. 14. 34 Westfields, St. Albans. Secy.: Gladys Pearson. Bldrs., etc. Nom. cap.: £100.

N. & D. MAGSON LTD.—Regd. Nov. 14. Bldg. contrs., joiners, bricklayers, at Huntington, York, etc. Nom. cap.: £2,000. Perm. dir.: Neville Magson, 7 Rolston-ave., Whitestone Drive, Huntington-rd., York.

T. C. SAVAGE & SONS LTD.—Regd. Nov. 15. Bldr. and contr. carried on at Ebley, Stroud, Glos., by T. C. Savage, etc. Nom. cap.: £10,000. Perm. dir.: Thomas C Savage, The Knapp, Selsey, Stroud.

G. B. HOMES LTD.—Regd. Nov. 15. 937a Brighton-rd., Purley, Surrey. Secy.: H. G. Goodchild. Bldrs., decorators, etc. Nom. cap.: £1,000.

JACK HARVEY CONSTRUCTION COMPANY LTD.—Regd. Nov. 15. 158 Guildford-ave., Feltham, Mdx. Secy.: J. A. Harvey. Bldrs. and decorators. Nom. cap.: £1,000.

JAMES E. COX (HIGHCLIFFE) LTD.—Regd. Nov. 15. Jay's Court., Montagu-rd., Highcliffe, Hants. Secy.: Jessie M. Cox. Bldg. and public works contractors, etc. Nom. cap.: £1,000.

NOEL DIXON LTD.—Regd. Nov. 14. 1 Durrell-rd., SW6. Secy.: Sheila F. Dixon. Bldrs., contractors, etc. Nom. cap.: £100.

DECOR-RENTALS LTD.—Regd. Nov. 16. 38 Fife-rd., Kingston, Surrey. Secy.: D. C. Stone. Bldrs., decorators, etc. Nom. cap.: £100.

A. W. CLARE & SONS LTD.—Regd. Nov. 16. 42 Woodland-ave., Gorton, Manchester 18. Secy.: Mrs. J. Clare. Bldrs., etc. Nom. cap.: £1,000.

E. HODGKISS LTD.—Regd. Nov. 16. 12 Parkstone-rd., Poole, Dorset. Secy.: Amelia Hodgkiss. Bldrs & contractors, etc. Nom. cap.: £3,000.

A. C. JARMAN (CONVERSIONS) LTD.—Regd. Nov. 16. 1 Arkleigh Mnsns., Brent-st., NW4. Secy.: A. C. Jarman. Bldrs., etc. Nom. cap.: £100.

Fire-Resistance of Floors and Ceilings

A New Fire Note

THE DIRECT fire loss in 1960, mainly in buildings, was nearly £44m. In an effort to keep the loss as low as possible the erection of new buildings is controlled by fire regulations.

Every day the Joint Fire Research Organisation receives inquiries from architects, consultants and local authorities on the best means of producing buildings to meet the fire regulations without using uneconomic methods of construction or having unnecessary restrictions placed upon them.

"Fire-Resistance of Floors and Ceilings" is the first in a new series of Fire Notes based on these inquiries. It describes a series of large-scale tests which the JFRO at Boreham Wood, Herts, has carried out in connection with British Standard 476, which grades structural elements by their ability to perform the functions for which they were designed, when exposed to fire.

The booklet contains recommendations for achieving reasonable fire resistance in floors and ceilings, including the conversion of old buildings and the repair of buildings after a fire.

"Fire-Resistance of Floors and Ceilings" by G. I. Bird, BSc(Eng), MIMechE. Published by HMSO for DSIR and the Fire Offices' Committee Joint Fire Research Organisation, price 2s. 0d.

EJMA Changes

Name Altered and Interests Widened

MEMBERS of the English Joinery Manufacturers' Association have received a letter from Mr. T. J. Mosesson, their president, concerning the future of the Association. It was intended as the basis of a full discussion at the annual general meeting held on November 22. It is considered that the English Joinery Manufacturers' Association should represent the needs of its members more fully and should be a satisfactory home for the allied woodworking trades. The likelihood that Britain will soon become a member of the European business community requires that the Association should be in the strongest possible position to promote and protect the woodworking industry in the British Isles.

The president's letter announced the recommendation of the Council that the English Joinery Manufacturers' Association should be replaced by a stronger more effective body to be known as the British Woodwork Manufacturers' Association. This title, it is hoped, will improve the name and description of the Association's work.

The draft constitution of the British Woodwork Manufacturers' Association has been worded so that the Association may allow admission of members from the Isle of Man, the Channel Islands and the Irish Republic. It is planned to set up the following five sections: architectural and general joinery; doors; windows, door frames and curtain walling; built-in units; and timber structures. The formation of the British Woodwork Manufacturers' Association will end the confusion that currently exists between the 'EJMA' and the 'EJMA' certification trade mark. The trade mark will continue to be a sign of functional and high quality woodwork.

Constitutionally the British Woodwork Manufacturers' Association will be able to extend the functions of EJMA. It will, if required by members, be able to deal with special labour problems, and will offer a service to all firms providing woodwork for the building industry in the British Isles.

TECHNICAL REVIEW

This Review of plant, equipment and materials—in most cases new or with new features—is intended to give brief details only of the products mentioned. Notices are based on data supplied by the manufacturers. Additional information and prices can be obtained either direct or by using the prepaid Readers' Service form which appears on page 152 of this issue. The form can be used for more than one inquiry.

1. Ceilings

A suspended CEILING SYSTEM, which does not use any proprietary cladding or fixed modules, was shown at this year's Building Exhibition. It consists of extruded aluminium profiles and patent connections, and is easily adaptable so that the architect is given freedom to express the function of a particular area beneath the ceiling by means of any modular or geometrical pattern. Particular services, such as ventilation ducts and public announcement systems, can be installed anywhere in the ceiling and all forms of recessed modular or non-modular lighting fittings can be used. The ceiling will also accommodate most types of translucent panels.

Rotaflex Ltd.,
7 Princes-street, London, W1.

2. Cranes

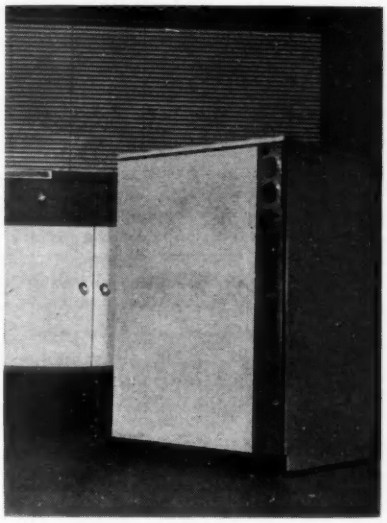
It is reported that the use of the Pingon P19A TOWER CRANE, the first of its type to operate in this country, on a 16-storey block of flats being built near Manchester, has helped considerably to speed up construction. On an average the guiding channels are fitted and the Pingon is climbed between floors by men on the site in a total time of one and a half hours. The crane is out of commission for only 15 minutes. Although, in this case, only one floor is being climbed at a time, the crane can be raised through two floors without any further delays.

The reasons for these economies spring directly from the simplified screw-erecting technique incorporated in the crane. A special adjustable strut is fitted to the beam of the screw mechanism, the lower end bearing on the guiding channels across the lift shaft opening. When the screw is set in motion the beam travels downwards, thus raising the crane through an entire floor in one continuous motion. No special frames or additional winches are necessary. Initial erection and dismantling are also greatly speeded up by the screw system. The mast and base assembly, complete with motors, wiring and controls, form one integral unit, which is virtually self-erecting. The P19A has a jib length of 67 ft. 6 in. At this radius it will lift one ton, with a maximum capacity of two tons at 34 ft. 9 in.

The George Cohen 600 Group Ltd.,
Wood-lane, London, W12.

3. Heating

A new fully automatic oil-fired DOMESTIC BOILER, 36 in. in height, is so styled that it can be built into, or blend in with, other kitchen equipment. Although there is an alternative flue outlet at the top of the unit, the flue pipe connection is normally made at the back of the boiler leaving the top clear as a working space. The burner employed is a fan assisted vapourising pot burner of the 'on/off' type with completely automatic electric ignition. Temperature control is by thermostat, and an illuminated temperature gauge indicates the actual water temperature. Both instruments are fitted on a small control panel which also accommodates two indicator lights. The heat output is 50,000 btu per hour, which is sufficient to heat a 30-gallon water tank and up to 200 sq. ft. of radiator space.



The 'Debutante' domestic boiler

S. Smith & Sons (England) Ltd.,
Witney, Oxon.

4. Kitchen Equipment

A new range of KITCHEN UNITS, in which a mixture of materials and a variety of colour schemes is used, allows a fair amount of individual choice in planning kitchen lay-outs. The steel floor cabinets are trimmed with strips of beech and stainless steel, the latter being attached to the bottom of the drawers and so designed as to provide finger-tip opening. The slant of the steel strip prevents anything spilt on the working surfaces from running down the front of the cabinet. The only handles on the equipment are chromium plated and are placed horizontally along the lower rim of the strip of beech on the floor cupboards. The wall units are also trimmed with stainless-steel strips providing finger-tip opening.

Various colours are available and for the working surfaces there is a wide choice of laminated plastics in plain colours and patterns. By the use of extended working surfaces, which can carry over the area for a washing machine or a refrigerator, little space need be wasted.

Leisure Kitchen Equipment Ltd.,
Nottingham-rd., Long Eaton, Nottingham.

5. Sealants

Vertiseal, a high duty polysulphide-based SEALING COMPOUND, which has been marketed for many years in the United States, is now being manufactured in this country. The compound, which may be used to seal joints in concrete, brickwork, masonry, metal, or any combination of these materials, is designed for work where conditions are particularly testing. For instance it will retain its bond, resilience and toughness in spite of prolonged weathering, repeated expansion and contraction, complete immersion in fresh or salt water, attack by most solvents and chemicals, and through temperatures ranging from below −20°F. to 150°F. It should be suitable for providing a permanent seal to critical joints in reservoirs, bridges, swimming baths, curtain walling, or sea walls.

Tretol-Servicised Ltd.,
2 Caxton-st., Westminster, London, SW1.

6. Miscellaneous

The replacement of badly worn stonework of an ornate character is becoming more of a problem as the cost of skilled labour rises. A solution on one recent job was to use REINFORCED PLASTICS, which have special characteristics of high resistance to corrosion, light weight and relatively low cost.

At Holy Trinity Church, Southport, eight stone pinnacles, which had deteriorated beyond repair, have now been replaced in this way. The pinnacles were moulded by the hand layup technique, using Fibreglass chopped strand mat and chopped strands together with polyester resin. Ragbolted to the existing masonry, these mouldings blend quite successfully with the traditional surrounds as can be seen below.

Fibreglass Ltd.
St. Helens, Lancs.

News in Brief

Production of Bricks and Cement

ACCORDING to figures collected by the Ministry of Works, 658m. bricks were produced in Great Britain in October, 31m. more than in October last year. Total production of bricks for the first 10 months of this year has been 2½ per cent higher than for the same period last year. Stocks of bricks at the end of October were 17m. more than at the end of October, 1960. During the 4 weeks ending October 30, 1,119,000 tons of cement were produced in the UK compared with 1,061,000 tons in the same period last year, an increase of 5½ per cent. Production was 7 per cent and deliveries to the home market from home production were 11 per cent higher in the first 10 months of the year than in 1960. In September, 32,000 tons of cement were imported and during the first 9 months of the year 79 000 more tons were imported than during the same period last year.

Road Haulage Rates to Go Up

THE RATES COMMITTEE of the Road Haulage Association recommended members of the Federation, on November 27, to increase their rates by 7½ per cent as from January 1 next. For certain special traffics an increase of more than 7½ per cent is considered justifiable.

Watertight Basements

THE TWO LATEST additions to the MoW Advisory leaflets, Nos. 51 and 52, cover watertight basements (HMSO 4d. each). Their design and construction is dealt with in the first pamphlet and the repair of existing basements in the second.

Council to Consider Bonus Scheme

A BONUS SCHEME has been proposed by the housing manager to Bromsgrove UDC, Worcestershire, for direct labour employees in order to accelerate production on work which has been accumulating over the past two years This accumulation has caused deterioration of fitments in pre-war houses.

SBPM Officers

AT THE seventeenth annual general meeting of the Society of British Paint Manufacturers Ltd., held at the Dorchester-hotel, London, on November 7, it was announced that Mr. B. A. Shattock and Mr. C. R. Preston had been appointed president and vice-president respectively for the year 1961/62.

Paint and Varnish Manufacturers

MR. KEITH THORNBERY, managing director of Griffiths Bros. & Co. London Ltd., of Wednesfield, Staffs., has taken office as president of the National Federation of Associated Paint, Colour and Varnish Manufacturers of The United Kingdom.

Increase in Pitch Fibre Production

PRODUCTION of pitch fibre pipes in the United Kingdom increased by 95 per cent between 1957 and 1960. Another substantial advance is expected by the end of 1961, the continued growth in demand showing no signs of abating. These facts are given by Mr. J. E. Ordish in his annual report as chairman of the Pitch Fibre Pipe Association, published in the latest issue of 'Pitch Fibre Progress,' the PFPA's quarterly newsletter.

Harbour Work on Film

THE COLOUR, warmth and excitement of a tropical island is vividly shown in a recent film produced by Richard Costain Ltd. Shot in Barbados, the film depicts one of the company's largest overseas contracts—the new deep water harbour at Bridgetown. It is a pleasant film of general interest, enhanced by some good calypso music, composed by Mr. Edric Conner. An underwater sequence demonstrates the method used to construct the breakwater, showing how divers directed the placing of massive concrete blocks 40 ft. below the surface. The consulting engineers for the contract, completed four months ahead of schedule, were Coode & Ptnrs.

Clean Air Exhibition

THE NAME of the clean air exhibition, organised by the National Society for Clean Air in conjunction with its annual conference, is to be changed when it goes to Harrogate next year from October 9 to 12. It will be known as the 'Clean Air, Fuel Efficiency and Domestic Heating Exhibition'—in order to give a clearer indication of the scope of the exhibition.

Danger of Merging Towns

ALDERSHOT BOROUGH COUNCIL is to discuss with Surrey and Hampshire county councils their proposals to build multi-storey flats on land near the Farnham boundary at Badshot Lea. Farnham urban council will also be represented at the discussions. The Farnham council has objected to the plan, maintaining that the site should be part of the green belt between Farnham and Aldershot to prevent the two towns being completely merged.

Timber Engineering Course

A SERIES OF LECTURES, study visits and discussions is to be held at Westham House Adult Residential College, Barford, Warwick, from January 19-21, 1962. This has been arranged by the Timber Development Association in conjunction with the Mid-Warwickshire College of Further Education. Further details and application forms for the course can be obtained from J. Richardson, Midlands Regional Officer, Timber Development Association Ltd., 55 Pershore-street, Birmingham, 5.

RDC Surveyors' Annual Conference

THE SIXTEENTH annual conference of Rural District Council Surveyors is to be held in the Royal Hotel, Scarborough, from April 10 to 12, 1962, during the week of the Royal Society of Health Congress. The conference will as usual be devoted to the work and duties of rural engineers and surveyors. It will include a forum for open discussion of rural problems, papers on topical matters, and an exhibition of plans of works carried out in rural areas. A combined session with the Institution of Public Health Engineers is to be held during the afternoon of April 11. An additional item is a small trade exhibition which is being mounted in the Royal Hotel in conjunction with the conference. Further details may be obtained from the conference secretary, Mr. S. M. Casson, 1 Northgate-street, Bury St. Edmunds, Suffolk.

Personal Column

The Nuralite Company, Whitehall-pl., Gravesend, Kent, has appointed MR. J. N. GIBBS and MR. DONALD BRIDGES as sales representatives for the Western Region.

MR. J. R. TAYLOR has been appointed technical service manager, surface coating resins of British Resin Products Ltd. He commenced his duies on November 6.

The Merchant Trading Company has appointed two new members to its board, both within the company. They are MR. L. E. YOUNG and MR. P. DUNKLEY.

MR. J. E. MILES has been appointed a director of J. Gliksten & Son (Hardwoods) Ltd. His position as a representative for hardwoods and plywood, covering the Eastern Counties will be taken by MR. STANLEY BOWLES, at present a London representative. MR. GEORGE MOORE, from the hardwoods sales office, succeeds Mr. Bowles.

MR. H. D. ATKIN, who was responsible, as works manager, for the plant installation and other preliminary work for Allied Structural Plastics Ltd., Luton Road Works, Dunstable, Beds., has recently been appointed general manager.

Trade News

'Treasure Chest' Winner

THE INGENIOUS IDEA of a 'treasure chest' prize as a means of attracting attention to the firm's products was devised by the Yale & Towne Mnfg. Co., at the Building Exhibition. Keys were distributed to visitors to the exhibition, one of which unlocked the chest on the firm's stand. The winner was Mr. H. E. Harrison, assistant manager of Securicor, who was presented with the 'treasure'—a cheque for £10—by Mr. R. J. Abrahams, sales director of Yale & Towne's lock and hardware division.

New Ceiling Module

BURGESS PRODUCTS CO. LTD. announce that they have developed a new module size 16 in. x 32 in. for suspended ceilings which will be available from March 1, 1962. The new module can be produced perforated or in plain metal, both types having chamfered edges. Each tile engages in the tee bar fixing members at 2 ft. 8 in. centres to conform to the building module currently being used by a number of authorities.

Contract for Structural Steelwork

TWENTY-FIVE THOUSAND tons of structural steelwork will be fabricated by Braithwaite & Co. Structural Ltd., of West Bromwich, and the Cleveland Bridge & Engineering Co. Ltd., of Darlington, for Europe's biggest power station to be built at West Burton, Nottinghamshire. The contract is worth £3m. Messrs. Merz and McLellan of Newcastle are the consulting engineers for the project, which has been the responsibility of the northern project group of the Central Electricity Generating Board. When commissioned the generating capacity of the station will be 2,000 mW.

OVERSEAS BUILDING

From Our Own Correspondents

ARGENTINA.—Agua y Energia Electrica has called tender no. 125/61 for the enlargement of the Sorrento thermal power station and construction of the Rosario Norte transformer station in the Province of Santa Fe, at an official estimate of 335,700,000 pesos. The closing date is March 28, 1962, and documents are obtainable for 1,500 pesos from the Subgerencia Talleres y Suministros, Agua y Energia Eléctrica, Lavalle 1527, 2° piso, Buenos Aires. . . . Agropecuaria Buenos Aires is to set up a beet sugar mill near Balcarce, Province of Buenos Aires. Initial production is expected to be 1,500 tons a day.

AUSTRALIA (QUEENSLAND). — The Co-ordinator General of Public Works, Sir James Holt, has indicated in his annual report to the Queensland State Government that, during the financial year 1961-62, a works and development programme costing £77,694,793 would be implemented. His report shows that £17,725,335 will be required for road, bridge and street works; at the University of Queensland, £888,500 will be spent on buildings in the anatomy, physiology, bacteriology and first year science blocks; and, during the current financial year, it is estimated that £7,475,000 will be needed for work on the Townsville-Mt. Isa Railway project. . . . The Mayor of Toowoomba, Alderman MacCafferty, has stated that tenders will be called shortly for the construction of a £2¼m. dam at Perseverance Creek, 25 miles north of Toowoomba, to assure the town's water supply for the next 30 years. The wall of the dam will carry a highway that will shorten the route from Crow's Nest to Brisbane. It is also planned to develop a tourist resort and a national park in the area. . . . The Church of England has entered into a contract for the erection of a £160,000 home for the aged, which the Church is establishing at Zillmere on more than 25 acres. A large part of the cost of building is being allocated from a £100,000 bequest made to the Brisbane Diocese, specially provided for the benefit of the aged. None of the buildings will be more than three steps above ground level, and each unit will have its own verandah. Married couples are to have small self-contained flats.

AUSTRALIA (SOUTH).—Tenders will be called soon for the construction of a new lighthouse at Marino Rocks for the Commonwealth Department of Works.

BRAZIL.—Petrobrás is expected to start the erection of a refinery at Belo Horizonte soon, with a daily capacity of 25,000 barrels. The plans for the new refinery have been approved by the National Petroleum Council.

CANADA (MANITOBA).—Construction of a new department store, for Tower's Marts of Canada Ltd., is under consideration for Winnipeg. It has been announced that this will be the fore-runner of several stores in Western Canada.

CANADA (NEW BRUNSWICK).—A five-storey building, to accommodate 226, and costing $1m. is to be constructed by the Windsor Foundation of Montreal for Mount Allison University. Construction is to start next spring.

CANADA (ONTARIO).—A contract has been awarded to Aglin-Norcross Ontario Ltd. worth $25,299,722 for building Toronto's new City Hall and Phillips-square project. The twin-towered structure will have a 2-storey podium and oystershaped council chamber. It will be Toronto's second tallest building and is to be completed by October, 1964.

Export Market for Building Materials

A report of the Conference on 'The Export Market for Building Materials,' held at Olympia on November 28 under the chairmanship of Lord John Hope, Minister of Works, will appear next week.

CANADA (ONTARIO).—The Metropolitan Toronto Roads Commission has approved a record road construction programme, amounting to $26.7m. for 1962. . . . A $16m. expansion programme has been announced by Dominion Foundries and Steel Ltd. at Hamilton. . . . The Federal Government has announced plans to construct a new National Museum at Ottawa. It is to be constructed in three stages comprising separate buildings for the Canadian Museum of History, the Museum of Natural History, and the Museum of Science.

CANADA (QUEBEC).—McGill University has announced a five-year construction programme to cost $60m. The programme includes a $10m. McIntyre medical sciences building; a $4.5m. biological sciences building; a $2.4m. humanities and social sciences building; a $1.4m. psychiatric teaching and research building; improvements on the departments of geography and meteorology to cost approximately $550,000; expansion to the physical sciences building to cost $2.3m., and new students' residences to cost $4.5m. Construction is to cover two stages, the first to cost approximately $26m., and the second stage $30m.

CHILE.—A programme, costing about US$11m., has been undertaken to modernise various ports, including Valparaiso, Arica, Antofagusta, Coquimbo, Puerto Montt and Talcahuano.

ISRAEL.—17,000 housing units are to be built in the present financial year at a cost of about I£120m. to cope with increasing immigration.

NICARAGUA.—The Instituto Nicaragüense de la Vivienda, of Nicaragua, was last week reported to be negotiating with the Inter-American Development Bank for a loan to finance the construction of 3,650 dwellings in various parts of the country.

NIGERIA.—Dys Trocca Valsesia, the Nigerian partners of Farrow Cubitts and Associates, a company jointly formed by Howard Farrow Ltd., Holland & Hannen and Cubitts Ltd. and Impresa Giachetti of Turin, is building a seven-storey headquarters block in Lagos for the Nigerian Ports Authority at a cost of £431,000 for completion in March, 1963. The architects are W. H. Watkins Gray & Partners; the consulting engineers, Brimer, Andrews & Nachsen; and the quantity surveyors, Widnell & Trollope, all of London.

SPAIN.—Ibérica Refinadora de Petróleos, formed by the Ohio Oil Company and Ibéria de Petróleos, is to install a petroleum refinery in the north. The company has been granted exemption from customs duties for the import of equipment and raw materials and a 50 per cent reduction in various taxes for a 15-year period. The site of the refinery has not yet been selected.

USA.—A new visual arts centre, designed by Le Corbusier, is to be built at Harvard University. It will be a five-storey structure.

VENEZUELA.—The Regional Government of the State of Aragua in co-operation with the Instituto Agrario Nacional, Cadafe, and the Ministry of Health, plans to build 23 new population centres next year under the Government's communal development programme.

German Construction Equipment

'BAUMA,' the German construction equipment exhibition, is to be held at Munich from March 17 to 25, 1962.

International Building Exhibition

THE international building exhibition is to be held at Dortmund, Germany, from May 30 to July 15, 1962.

International Sculpture Competition

AN INTERNATIONAL COMPETITION for the design of a major sculpture or construction for the Golden Gateway redevelopment in San Francisco has been announced by its sponsors, Perini-San Francisco Associates, and their architects, Messrs. Wurster, Bernardi and Emmons and DeMars and Reay. Three to five semi-finalists in the competition will be selected to submit sketches for the final stage of the competition and each will receive $1.000 to develop designs. The winner will be commissioned to do the work budgeted at $50,000.

Electric Tools in Middle East

ONLY ONE British firm, Black and Decker Ltd., exhibited at the Damascus Trade Fair from August 24 to September 20. This was part of an electric power tools sales drive in the Middle East.

Overseas Contract Open

ARGENTINA.—The Dirección Nacional de Vialidad and Dirección Provincial de Vialidad of the Chaco are jointly calling for tenders for roadworks in the Chaco. The estimated cost is in the region of 481m. pesos. Payment will be in cash partially financed by the World Bank. The closing date for the submission of tenders is January 15, 1962. Firms tendering should first obtain registration certificates in Buenos Aires. Further information may be obtained from the Economic Counsellor, Argentine Embassy, 111 Cadogan-gardens, London, SW3.

SCOTTISH BUILDER

Merging Towns for Overspill

A SUGGESTION that Falkirk, Grangemouth, and Larbert should be formed into a city to rehouse overspill population from Glasgow was made recently by SIR JAMES MILLER, former Lord Provost of Edinburgh, at the annual dinner of the Trades House of Glasgow.

Sir James said the development of new towns was very useful and necessary. But his own feeling was that the average Glasgow working man leaving Glasgow did not want to go to a community of 10,000 to 30.000 people. He wanted to go to a place big enough to have a first-division football team, greyhound racing, theatres, cinemas, and dance halls.

He would like to see local authorities in Scotland considering such a development. The new city could make provision for Scotland's fifth university, and he could think of no better position for it than the Falkirk-Grangemouth area. To increase the present population from 70.000 to 150.000 in the next 20 to 25 years, he added, was a scheme well worthy of consideration. This proposal would solve any overspill problem from Glasgow or Edinburgh. Overspill population would not have to be sent so far away as Wick or Stranraer.

GENERAL SIR GORDON MACMILLAN, chairman of Cumbernauld Development Corporation, said it was better to plan a new town constructively on a virgin site where arrangements could be made to deal with modern problems. The population should live in modern conditions, and he suggested it was better to have projects such as the new town of Cumbernauld rather than the city suggested by Sir James Miller.

New Buildings

ARBROATH.—TC is to build 111 houses at the Newbigging site on an all contracts basis. Names to Burgh Architect, 32 Hill-st., Arbroath, by Dec. 2.

AYR.—Kilmarnock Co-operative Society Ltd. has been granted Dean of Guild approval for a £12,000 self-service store at Main-rd., Whittlets, Ayr.

CUMBERNAULD.—The development corporation is to erect 301 houses in the Kildrum 18 housing development in single and two-storey blocks.

CUPAR BURGH.—The proposal put forward by Fife County Council, as planning authority, in their development plan for the Burgh for a new link road and redevelopment in the Short Lane area has been approved by the TC. They are asking a well-known contractor if the firm would be willing to prepare a layout for the area and undertake the development.

EDINBURGH. — The corporation's transport committee is to undertake alterations to the Longstone 'bus garage on an all-contract basis. T. Bowhill Gibson and Laing, Edinburgh, are architects. Tenders to Transport Manager, Edinburgh, by Dec. 26.

EDINBURGH.—The North British Distillery Co. Ltd. has received approval for a £130.000 bonded warehouse at Slateford-rd., Edinburgh, work on which will begin at an early date. . . . F. W. Woolworth & Co. Ltd. are to build a new store at Distillery-la. and Dalry-rd. at an estimated cost of £46,500. Dean of Guild approval has been given. . . . The corporation is to build 44 houses at Granton-cres. at a cost of £80,000.

KIRKCUDBRIGHT.—CC is to extend and alter Dalbeattie primary school. A separate contract basis is proposed and applications should be made to County Architect, County Offices, Kirkcudbright.

LEVEN.—Planning permission has been given for the erection of a pattern store and gatehouse at Kirkland Works, Leven, for National Steel Foundry Ltd.

THE BUILDER CONSTRUCTION NEWS

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list, see previous issues. Those preceded by the symbol (A) are advertised in this number. The latest date for the receipt of tenders or applications appears above each paragraph. The symbol (R) preceding each entry indicates that applications must be received by this date.

BUILDING

DECEMBER 6

(AR) BLACKBURN CBC.—Erection of two flats at Witton Park sch. Boro' E. Dep. £2 2s.

(AR) BRIERLEY HILL UDC.—Fixed price tenders for the erection of dwellings at Moor-la. housing site (Wells-rd.). A & Housing Director.

(AR) SOMERSET CC.—Fixed price tenders for the erection of Nailsea prim. sch. County A. Dep. £2 2s.

DECEMBER 8

(AR) BRISTOL CITY C.—Fixed price tenders for the erection of a sec. sch. for girls at Hartcliffe. City A.

(AR) NEWCASTLE REGIONAL HOSPITAL BD.—Conversion of ward 6 at Sherriff Hill Hospital into a children's unit. Sec. to Bd.

(AR) PLYMOUTH CITY C.—(a) Erection of 32 flats at Henderson-pl., Ford, and (b) eight flats and six garages at Cecil-st., Stonehouse. City A. Dep. £3 3s. (each contract).

DECEMBER 9

(AR) EPPING & ONGAR RDC.—Modernisation of Nos. 1-20 Hoe-la., Abridge. E&S. Dep. £2 2s.

DECEMBER 12

ROSCOMMON (Eire).—Erection of a new factory for Roscoe Leather & Plastic Industries Ltd., Roscommon. Morris & Kavanagh, 62 Harcourt-st., Dublin. Dep. £10.

DECEMBER 13

(AR) DURHAM CC.—Erection of various schools, etc., and a branch library, etc. County A.

DECEMBER 14

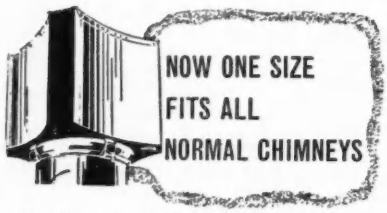
(AR) IPSWICH CBC.—Fixed price tenders for 116 dwellings at Chantry estate (3 contracts). Boro' E. Dep. £3 3s. Tenders by Jan. 30.

(AR) NORTHAMPTON CBC.—Fixed price tenders for the erection of Northgate special sch. at Queen's Park Parade, Kingsthorpe. Chief Ed. Officer.

(A) THURROCK UDC.—Erection of a village hall at Corringham town centre. Clerk to C.

DECEMBER 15

(AR) BRISTOL CITY C.—Erection of a youth centre at Queen's-rd., Withywood. Chief Ed. Officer.



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DECEMBER 18

NORTHERN IRELAND MINISTRY OF COMMERCE.—Construction of an advance factory at Armagh. Room 30b, Chichester House, 64 Chichester-st., Belfast 1. Dep. £3 3s.

(A) RAMSEY UDC.—(a) Erection of 18 dwellings at School-la. housing site. (b) Erection of 46 dwellings at Station-rd. housing site. Pick, Everard, Keay and Gimson, engrs., 6 Millstone-la., Leicester. Dep. £3 3s. (each contract).

DECEMBER 21

(AR) PADDINGTON MBC.—Erection of eight dwellings at Westbourne Park-rd., NW11. Clerk to C. Dep. £2 2s.

DECEMBER 22

(AR) CHISLEHURST & SIDCUP UDC.—Erection of a sports pavilion and public conveniences, with caretaker's flat, at Hoblingwell Wood, St. Paul's Cray, Kent. E&S. Dep. £2 2s.

(AR) FRIMLEY AND CAMBERLEY UDC.—Firm price tenders for 72 maisonettes at Old Dean housing estate, Camberley. Close and Merton, chartered quantity surveyors, 20-22 High-st., Camberley.

DECEMBER 29

(A) WIDNES BC.—Erection of eight bungalows at Crow Wood-la. Boro' A. Dep. £10 10s.

JANUARY 1

(A) WELLINGBOROUGH UDC.—Fixed price tenders for old people's accommodation at Henshaw-rd. (two contracts). Clerk to C. Dep. £5 5s. (each contract).

JANUARY 3

(A) SALFORD CITY C.—Firm price tenders for alterations and extensions to Seedley county prim. sch., Liverpool-st., Salford 6. City E&S. Dep. £3 3s.

JANUARY 8

(A) SALFORD CITY C.—Firm price tenders for 120 flats at New Church site, Bury New-rd., Salford 7. City E&S. Dep. £5 5s.

FEBRUARY 2

(A) BASILDON BC.—Erection of 24 bed-sitting rooms for old people's hostel, with communal rooms and warden's flat at Velmore housing estate. Boro' E&S. Dep. £2 2s.

SERVICES, PAINTING, MATERIALS, ETC.

DECEMBER 8

(AR) BIRMINGHAM CITY C.—Inclusion in approved list of contractors for repair and reconditioning work of sub-standard houses. Housing Mgr.

(AR) BRISTOL CITY C.—Fixed price ten-

ders for electrical installation at New Hartcliffe, Bristol, from contractors on the National Inspection Council for Electrical Installation Contracting only. City A.

DECEMBER 12

(A) HESTON & ISLEWORTH BC.—Fixed price tenders for bitumen felt re-roofing, new lighting, re-decorations and alterations to changing accommodation, at swimming baths. Boro' E&S.

DECEMBER 13

(AR) DURHAM CC.—Prefabrication and erection of demountable classrooms at three schools. County A.

DECEMBER 15

(AR) HARROW BC.—Inclusion in list of painting contractors. TC.

DECEMBER 29

(A) WALTHAMSTOW BC.—Materials, etc. Boro' A.

JANUARY 5

(A) BROMLEY BC.—(a) Replacement of defective sanitary fittings and re-hanging of doors at 181 pre-war Council houses. (b) Sanitary fittings for replacements at 181 pre-war Council houses. Boro' E.

JANUARY 12

(A) BATTERSEA MBC.—Provision of precast concrete flags. Boro' E&S.

NO DATE

(A) BOOTLE CBC.—Sub-contract work to 94 dwellings at Strand-rd., Bootle. Boro' S.

MUNICIPAL AND CIVIL ENGINEERING WORKS, ETC.

DECEMBER 14

CLARO WATER BD.—Laying and jointing of approx. 23,500 yd. of 18 in. dia. spun-iron pipes, mainly with Tyton joints, from Eagle Hall, Pateley Bridge to Harrogate, with the laying of short lengths of smaller dia. washout mains, the construction of valve chambers, air valve chambers, washouts, stream crossings, and other ancillary works. E to Bd. Dep. £5 5s.

DECEMBER 16

BRISTOL CITY C.—Preparation of grass areas of approx. 37,000 sq. yd. at Tyning & Gilda sites. City E & Planning Officer.

DECEMBER 20

HUNTINGDONSHIRE CC.—Reconstruction of Earith Bridge over new Bedford River. Work include the construction of a three-span reinforced concrete bridge with an overall length of 170 ft., about 135 yd. of approach roads, and demolition of the existing steel bridge. County S. Dep. £10.

GENERAL BUILDING WORK (LONDON)

HAYES & HARLINGTON.—School Extensions.—Subject to necessary consents, Middx. CC approves a proposal to carry out the first instalment of extensions at Hayes and Harlington, Mellow-la. sch., at an estimated cost of £165,060.

HESTON & ISLEWORTH.—School Extensions.—Middx. CC, subject to necessary consents, has authorised extensions and adapatations to Heston and Isleworth sec. boys' and girls' schs., at an estimated cost of £286,296.

POPLAR.—Housing Scheme.—The LCC's housing committee has approved proposals submitted by the appointed architects, Messrs. Stewart, Hendry and Smith, for developing a site of about two acres between Pennyfields and Ming-st., Poplar. The accommodation to be provided consists of 64 maisonettes in three four-storey blocks and a two storey block containing 14 flats for old people. There will also be two playgrounds, 27 garages and 36 tenants' stores. The estimated cost, including incidental expenses, is £235,600.

WANDSWORTH.—Children's Homes.—A scheme, prepared by Messrs. James Stirling and James Gowan, the appointed architects, has been approved by the children's committee of the LCC for the erection of two children's homes, each for 17 children, on the site of the former Frogmore special school, Wandsworth. Each house will be two storeys in height, with external walls of facing brick. The ground floor will include, in addition to service rooms, a day-room, a children's sitting-room and a covered play-area overlooking the garden. The first floor will consist of bedrooms arranged in four groups, each with three bedrooms and sanitary accommodation. The estimated cost excluding land but including furniture and equipment, architects' and consultants' fees and incidental expenses is £64,935. This figure represents a cost of £1,910 a place.

(PROVINCIAL)

ASHTON-UNDER-LYNE.—Following for Lancs. EC: Aged persons' hostel at Hurst Hall; hostel and adult training centre at Crowthorn-rd.; ambulance station at Cambridge-st.; 2-form entry infant/junior school at Earle-st.

BALLYCASTLE (Co. Antrim).—Northern Ireland Hospitals Authority to proceed with plan to provide Ballycastle with a new general practitioner hospital to replace the Dalriada hospital, which was declared unsafe last year.

BALLYMONEY (Co. Antrim).—UDC propose the erection of 50 houses on new sites and are to proceed with the re-development of sites at Castle-st. and Gate End.

BARROW-IN-FURNESS.—The remodelling of Victoria county infants' school is proposed by the BC.

BASINGSTOKE (Hants).—BC has signed an agreement with the LCC sanctioning the expansion of Basingstoke by intake of London overspill population. Scheme provides for erection of about 11,500 dwellings and for industrial, commercial and other developments in the central area. Contracts for building on housing estates will be responsibility of Hampshire CC, acting as agents and they will be the planning authority. It is intended that the scheme will be completed in 15 years.

Contracts Placed

We are glad to receive from architects and quantity surveyors for publication details of contracts placed to the value of £20,000 or over. Such information should reach the Editor as soon as possible after the contract is signed. Names of the architect and other consultants associated should be given.

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BEBINGTON.—Liverpool Regional Hospital Bd. has approved in principle a geriatric day room at Clatterbridge Hospital.

BEDS.—CC propose additional classrooms at St. Christopher's county primary school, Dunstable; Highfield county primary school, Dunstable; Lawnside county primary school, Biggleswade; extensions at Mander College Farm, Silsoe, £59,200 est.

BELFAST.—City C has approved a scheme to adapt Wilmont House to provide accommodation for 32 elderly men and women. Est. £43,130.

BILLINGHAM-ON-TEES.—The UDC has been authorised by the Ministry to proceed with a scheme for the erection of three blocks of ten-storey flats in the town centre, and quantities are to be prepared. Architects are Elder and Lester, Town-sq., Billingham.

BOLTON.—BC propose erection of hostel for Technical Teacher Training College at Chorley New-rd.

BRAMPTON.—Newcastle Regional Hospital Bd. propose extensions to the Cottage Hospital.

BRIERLEY HILL.—Cerebros Limited, London, propose erection of premises for storage purposes.

BRISTOL.—TC propose modernisation and improvements to the treasury at Broad-st. £45,000 est. . . . The Muller homes for Children propose new hostel at Ravenswood-rd., Redland.

BURTON-ON-TRENT.—BC propose erection of 24 bedsitters at Hawfield-la.

CAMBRIDGE.—Corpus Christi College Cambridge University, intends to create a graduate extension at Leckhampton House, Grange-rd., Cambridge, an eight-acre estate owned by the College. On the estate is a large, attractive, late 19th-century house and garden. The College plans to provide public rooms and accommodation for a few fellows in the existing house, and to accommodate research students and other Fellows in a new building nearby.

CASTLEREAGH (Co. Down).—RDC have approved for submission to Ministry for approval, preliminary plans for sewerage scheme for the Dundonald area. Est. £110,000.

CHAPEL-EN-LE-FRITH.—Town map submitted by Derbys. CC to MH&LG to include sites reserved for primary school/fire station/telephone exchange and 12 acres for use as industrial estate.

CHESTERFIELD.—Derbys. CC propose erection of hostel for mentally subnormal on land at Ashgate playing fields. . . . Plans have been approved by the BC for church premises/licensed house/block shops at Loundsley Green estate.

CHICHESTER.—City C has approved a plan for Chichester harbour, incorporating the construction of a 500-yacht basin, hotel and yacht club, by M. G. Duff & Ptnrs. Ltd., ship surveyors, 1 Guildhall-st., Chichester. Est. £250,000.

CLITHEROE.—RDC propose erection of 33 dwellings at Riddings-la., Whalley.

CONGLETON.—BC propose the erection of 50 dwellings during 1962.

COOKSTOWN (Co. Tyrone).—UDC and RDC recommended to approve joint scheme for the construction of an indoor swimming pool. Est. £75,000.

DERBY.—Brotherton & Palfree propose erection of shopping arcade and car park at Sadler Gate.

DORCHESTER.—Dorset CC is considering the construction of County Administrative buildings on the site of the Depot Barracks. County Planning Office is Mr. Lionel Abbott.

DUKINFIELD.—UDC propose residential development at King-st. clearance area.

DURHAM.—Tenders are being obtained by the CC for the erection of a library at Brandon, and extensions to the workshop block at Durham Technical College. County A is G. W. Gelson.

EPSOM & EWELL.—BC approved layout for proposed Longmead Housing estate.

FARNBOROUGH.—UDC to purchase 6½ acre site at Tower Hill, Cove, for housing purposes, also 3 storey block of flats at Broomhill-rd.

FELTHAM (Middx.).—A £1½m. development scheme for the High-st. is proposed. Hallmark Securities Ltd. are the developers.

GUILDFORD.—BC approved plans for 24 flats at the junction of Hazel-ave. and Woking-rd.

HAMPSHIRE.—CC propose new schools at: Park-la., Havant; Perth-rd., Gosport; and new infants' school at Cowplain Park.

HANLEY.—Associated British Cinemas Ltd. propose erection of offices/shops/bowling alley/cinema in 4-storey block.

HARTLEPOOL.—Taylor and Evans Ltd., builders, Elwick-rd., West Hartlepool, propose 42 houses at Hart Station.

HAZEL GROVE & BRAMHALL.—UDC is considering a scheme for the erection of joint swimming baths with Cheadle & Gatley UDC, £200,000 est.

HIGH WYCOMBE.—Hewens Garages Ltd., Maidenhead, propose new offices, garage and showrooms at Oxford-rd. . . . Hard Alloys Ltd. propose extensions to factory at Beech-rd. Architects: Brocklehurst, Cooper and Williamson, High Wycombe. . . . Parslow Furniture Ltd. propose erection of offices at Lancaster-rd. Architects: R. Seifert & Ptnrs., 34, Red Lion-sq., London, WC1.

HORSHAM.—An outline planning application for office blocks, possibly ten storeys high, on site of Horsham House, North-st., Horsham, has been approved by the TC's building and town planning committee. If the office blocks are built to maximum height allowed by the planning committee—108 ft.—they will be twice as high as the Odeon Cinema and two-thirds the height of St. Mark's church spire.

HOVE.—General Developments Group propose a 9-storey block of luxury flats overlooking county cricket ground. Architects: Fitzroy Robinson & Partners, 50 Norfolk-st., Brighton.

HUNGERFORD (Berks.).—RDC is investigating possibility of purchasing part of West Shefford Station for a housing site.

HYDE.—Following for Ches. CC: Erection of child and adult training centre for mentally handicapped at Stockport-rd., Gee Cross, £90,000 est.; type 'C' clinic at Greenfield-st.

ISLE OF MAN.—Local Government Bd. propose erection of 30 old people's dwellings at Port Erin.

INCE.—Residential development is proposed at Platt Bridge area by the UDC.

IVER.—Atlas Securities Ltd. propose new offices. Architects: Carl Fisher & Associates, 56 Portland-pl., London, W1.

LEEDS.—Following for TC: Old People's home at Commercial-rd., Kirkstall, £90,000 est.; branch library/clinic at Belle Isle; abattoir wholesale meat market off Pontefract-la.; 16 maisonettes/12 houses/21 garages at Killingbeck; residential development roads/sewers at Belle Isle estate (area 'D'); 17 flats/garages, with 5 flats over, at Charing Cross-st. redevelopment area.

LEIGH.—BC is seeking loan sanction of £70,209 for erection of 49 dwellings at Westwell-st. redevelopment area.

LITTLEHAMPTON.—The Beach Hotel sports ground site, South-ter., Littlehampton, Sussex, which was sold for £15,000 a little over two years ago, has now been sold for £25,000. The site, of one and a third acres, carries planning consent for 96 flats, but these are not now to be built. There will now probably be only 50 flats built. Building is not expected to start before six months. The new owners, a family trust, have as agents, Graham Franks, Scott-Smith & Co., who have also acquired the old Southlands Hotel site, in South Terrace, for clients who will start building a block of 19 flats in five storeys in the near future.

LIVERPOOL.—TC propose erection of aged persons' flats at Booker-ave., Greenhill-rd. . . . Regional Hospital Bd. propose erection of occupational therapy accommodation at Home for Invalid Women. . . . University Senate propose recreational centre and swimming bath at Bedford-st.

LUTON.—BC propose 20-acre housing scheme adjoining the Lewsey estate. . . . BC to negotiate contract with John Laing Construction Ltd. for 16 aged persons' dwellings adjoining Regis-rd. . . . Weedon (Builders) Ltd. propose erection of 18 bungalows at Saywell-rd. . . . Ellis and Goldstein Ltd. propose a 7-storey factory and offices at Guildford-st.

LYMINGTON (Hants).—BC has approved scheme for re-development of Howards Mead estate at Pennington providing total of 78 units, comprising a 11-storey block of 33 flats, remainder in terraces of houses, flats and maisonettes in two and three-storey blocks.

MANCHESTER.—Regional Hospital Bd. propose upgrading 4 wards at Ancoats Hospital. . . . Thos. Armstrong & Brother Ltd. propose extensions to existing premises at 80 Deansgate. . . . Dannimac Ltd. propose a three-storey block offices/warehouse/showroom at Dutton-st., Strangeways.

MIDDLESBROUGH.—Following a public inquiry, the Ministry have approved a plan by Ceres Investments Ltd., to convert the Regent Cinema, Parliament-rd. into shops, etc. Architects are S. John Hill and Partners, 2 Whitfield-st., Gloucester.

MORPETH.—Tenders are being invited by Newcastle-on-Tyne Hospital Board, Benfield-rd., Newcastle-on-Tyne, for the erection of a nurses' training centre at St. Mary's Hospital, Stannington. Plans by Board's Chief Architect (P. H. Knighton).

NEWCASTLE-ON-TYNE.—A maternity and gynaecology dept. is proposed at Walkergate Hospital, by Newcastle Hospital Board, Benfield-rd., Newcastle-on-Tyne. . . . Newcombe and Newcombe, 23 Eldon-sq., Newcastle, prepared plans for church hall at Cheviot View for St. Michael's Church. It is proposed to demolish 44-6 Shields-rd., Newcastle, and erect shops and offices on the site. Architects are Jack Cotton, Ballard and Blow, 48 Pilgrim-st., Newcastle.

NEW MILLS.—Discussions are taking place between UDC, Chapel-en-le-Frith UDC and Whaley Bridge UDC, in connection with erection of joint swimming baths.

NEWPORT.—Birmingham Regional Hospital Bd. propose extensions adjoining theatre at Cottage Hospital.

NEWTOWNABBEY (Co. Antrim).—UDC recommended to make available to Co. EC a site beside the RUC barracks at Whiteabbey for the erection of a new technical college to serve Newtownabbey and Carrickfergus. Plans have been prepared and work is expected to commence on the college towards the end of 1962. Est. £350,000.

NORTHERN IRELAND.—Lord Chandos, chairman of the Northern Ireland Development Council, stated in Belfast recently that the establishment in Northern Ireland of a small steel mill, working on scrap, was being considered actively by the Council, and was estimated to provide work for 200 to 300 people. He said that, up to now, the establishment of such a mill was not a practical proposition, but owing to new technical developments there was a possibility it could be done. It could attract industries that could use its end product and would indirectly have a bearing on unemployment.

ORMSKIRK.—Lancs. EC propose erection of three-storey teaching block at Ormskirk grammar school. . . . RDC propose erection of new offices at Derby-st., £35,840 est.

OSSETT.—West Riding CC propose erection of four temporary classrooms at Ossett grammar school.

OSWALDTWISTLE.—All Saints Church Authorities propose erection of new church at West End.

OSWESTRY.—Birmingham Regional Hospital Bd. propose improvements to maternity unit at Oswestry Hospital.

OXFORD. — Regional Hospital Bd. has approved extensions to x-ray department at Amersham General Hospital.

OXFORD.—Merton College, Oxford University, has granted a building lease for Forte's, to build a restaurant and service station on a nine-acre site near Oxford's western and north-western by-passes. Planning permission will be sought to include a 96-room motel and a swimming pool on the site.

OXFORD.—TC approved following: Erection of 10 houses off Headley Way; a three-storey block of flats and garages at 15 Middle Way for Barrington Capel Ltd.; 49 flats and garages at London-rd., for D. W. E. Blackburn.

PETERLEE (Co. Durham).—A contract is expected to be signed in the near future for the erection of a shopping and office block in the Town Centre, Peterlee, for Peterlee Development Corporation. Architects are W. H. Williamson and Partners, 7 St. Mary's-pl., Newcastle-on-Tyne.

PEWSEY (Wilts.).—RDC has approved 1962 housing programme of 45 dwellings.

POOLE.—TC's scheme for reconstructing Sterte Bridge, est. £30,000, has been put first in order of priority of major road improvements for coming year.

PORTSMOUTH.—The housing committee of the City C has approved development including two ten-storey blocks of flats on the slopes of Portsdown Hill, overlooking the city. The site adjoins the Children's Cottage Homes at Cosham to the north of Portsdown-cres. nr. junction with Collyer-rd. The whole scheme provides for 309 houses and flats, 262 lock-up garages, two shops, and a children's play space to be used for housing tenants of pre-fabs that are to be demolished over the next few years. There will be three- as well as ten-storey blocks and 136 two-storey houses.

PORTSMOUTH.—Portsmouth Diocesan Authority is to build new churches at Leigh Park (work expected to start soon), Rowner, Fareham Park, Fareham St. John's and Portchester. Total est. £168,000.

PRESTON.—Manchester Regional Hospital Bd. propose extensions at Preston Royal Infirmary.

READING.—BC has approved following: 30 flats and garages at Malvern House site, Addington-rd. (architects: Gotch and Partners, 8 City-rd., London, EC1); 61 houses and 21 flats at New-la. hill for Mcmanus & Co. Ltd.; 47 houses at Lower Henley-rd., Caversham, for Doughty Developments Ltd., Burnham, Bucks; layout for public house at Maiden Erlegh-dr. for Gough Cooper & Co. Ltd.

ROCHDALE.—Following for BC: Junior/adult training for handicapped people at Ings-la.; cultural centre for approx. 400/500 people, to be included in the 1st stage of Rochdale College.

RYTON (Co. Durham).—John Moody Ltd., builders, 53 Whagg-la., Whickham, are to erect 30 houses at Woodside-rd., Ryton.

ST. HELENS.—BC seeking loan sanction of £250,000 for the erection of a new bus garage.

SALISBURY.—CoE Auth. propose erection of new sec. school, £150,000 est.

SALOP.—CC propose erection of whole-

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time ambulance stations/staff accommodation at Prees/Bridgnorth/Craven Arms/Donnington, £108,100 est.

SALTBURN (Yorks.).—UDC is considering the construction of a sea wall to prevent coast erosion between Skelton Beck and Huntcliffe. Cost may be £50,000.

SHEFFIELD.—TC propose conversion of farm buildings to form district depot at Greenhill Hall Farm. . . . Gleesons Ltd. propose erection of multi-storey car park rear ABC Cinema.

SOUTH SHIELDS.—Tenders are being received for the erection of new premises in Maxwell-st., for the Harlow Printing Works Ltd., 104 Frederick-st., South Shields. Architect is C. Solomon, 30 St. Mary's-pl., Newcastle-on-Tyne.

STANLEY (Co. Durham).—Contracts are to be arranged by the UDC for the erection of further houses on the Lintz housing estate. Layout plans have also been prepared, for submission to the planning authority, for the erection of 308 houses and 56 old people's cottages at West Shield Row, Stanley. Surveyor is R. H. Snowball.

TROWBRIDGE (Wilts.).—UDC given go-ahead for their plan to demolish the Old Rectory and erect an office block and car park on the site.

TYLDESLEY.—UDC propose erection of 60 houses off Lancaster-ave., and have offered 4 alternative sites to Lancs. CC for erection of an old people's hostel.

TYNEMOUTH.—Tenders are now being received for the erection of an office block for Smith's Dock Co. Ltd., North Shields, and it is likely that a contract will be decided about the end of December. The cost is understood to be about £30,000. Architects are W. B. Edwards and Partners, Cathedral Buildings, Dean Street, Newcastle-on-Tyne.

ULVERSTON.—Oxley Development Co. Ltd. propose extensions at Market-place.

UPTON.—15.9 acre sites are being purchased by Ches. CC for erection of new sec. sch. . . . CC being requested by Parish Council to include new branch library during 1963/4 building programme.

WALTON & WEYBRIDGE.—UDC approved 20 houses and garages at Moulsey-rd., Hersham, for George Wimpey & Co. Ltd., London.

WASHINGTON (Co. Durham).—Plans have been approved for proposed offices and laboratories for the Washington Chemical Co. Ltd., and it is expected that contracts will be arranged within a few weeks. Plans are by Powell Duffryn Ltd., Proctor-hse., The Side, Newcastle-on-Tyne.

WEST LANCS.—Land is being leased by RDC at Southport-rd., Scarisbrick, to Kershaw Bros. for erection of new factory.

WIGAN.—Ministry approval being sought by BC for redevelopment of Scholes area.

WINFRITH HEATH (Dorset).—CC has approved UK Atomic Energy Authority proposal to erect a 'Zebra' project building at their research establishment at Winfrith Heath.

WOKINGHAM.—RDC propose alterations at the Council Offices to form additional accommodation.

WORTHING.—The Ashmount, formerly an hotel, is to be converted into an old people's home at a cost of £45,000. It will be Worthing Council's third old people's home, providing accommodation for 31 residents. It will open in January next.

YORK.—University propose converting King's Manor, Heslington Hall, to form colleges.

TENDERS

(A) Denotes *accepted*.
(PA) Denotes *provisionally accepted*.
(RA) Denotes *recommended for acceptance*.
(AM) Denotes *accepted subject to modification*.
(GD) Denotes *accepted subject to approval by appropriate Government Department*.

BRACKNELL (Berks.).—New dormitory block at Newbold College. Architects: Eric G. V. Hives & Sons, 46/48 Queen's-rd., Reading, Berks. QS: L. W. Chopping & Ptnrs., Reading, Berks. (A) Walden & Son (Henley) Ltd., Henley-on-Thames, Oxon., £84,000.

CHESTERFIELD.—New civil defence headquarters at New-sq. site for BC. (A) W. H. Frearson Ltd.

CHESTERFIELD.—Multi-storey block on five-acre site for GPO (Accountant-General's dept.). (A) M. J. Gleeson (Contrs.) Ltd., Sheffield, £970,000.

CONNAH'S QUAY.—2nd phase of new civic centre for UDC. (A) G. & R. Brimblecombe Ltd.

COULSDON & PURLEY.—Erection of dwellings at the Old Lodge estate for UDC. (RA) R. Mansell & Co. Ltd., Croydon, £270,187.

DARLINGTON.—Erection of 24 old people's flats at Mowden-terrace for TC. Boro' A is E. A. Tornbohm. (A) Mackenzie Brothers, 52 Duke-st., Darlington.

DUKINFIELD.—Erection of 200 dwellings at Yew Tree estate for BC. (A) Thos. Partington & Son (Builders) Ltd.

DUNSTABLE.—New RC Church of St. Mary for RC Auth. (A) R. Willis & Sons, 123 Vandyke-rd., Leighton Buzzard.

ESHER.—Erection of 48 dwellings at Littleheath Farm estate, Oxshott, for UDC. (A) R. E. Styles (Ditton) Ltd., Long Ditton, £123,436.

FRIMLEY & CAMBERLEY.—Construction of 132 dwellings at Old Dean Common estate, Camberley, for UDC. Architects: H. Austin Barton & Partners. QS: Close & Morton.

E. & J. Cotton Ltd.	£256,297
R. A. Wooff Ltd.	249,082
Kirk & Kirk Ltd.	247,297
Gable Construction Co.	244,032
M. Howard (Mitcham) Ltd. ...	241,385
Darshot Ltd.	239,608
Carlton Contractors Ltd.	231,427
S. G. & A. Agombar Ltd.	230,247
(RA) E. J. G. Morgan Ltd.	227,363

HEBBURN-ON-TYNE (Co. Durham).—Erection of 102 bungalows on Ponds site for UDC. (A) Direct labour, £140,845.

IRELAND.—Heating, ventilating and plumbing at new international airport, Dublin, for Intercontinental Hotel Corpn. Architects; W. B. Tabler. in association with M. Scott. (A) G. N. Haden & Sons Ltd., £215,000 (main contrs.: G. & T. Crampton, of Dublin).

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LONDON (Holborn).—Dwellings at Buckridge Bldgs., Bourne estate, Holborn, for LCC's housing committee. (A) Direct labour, £37,527 (approx.).

LONDON (Kensington).—Improvements to Isaac Newton sch. for boys, for schools planning sub-com., LCC.

Stirton Partners Ltd.	£38,851
E. J. Lacy & Co. Ltd.	37,258
Walter Lilly & Co. Ltd.	36,512
W. J. Marston & Son Ltd.	34,770
Haymills (Contractors) Ltd.	34,499
(A) A. H. Franklin & Sons Ltd. ...	31,311

Comparable estimate of the appointed architects, Messrs. Hammett & Norton, is £31,350.

LONDON (Lewisham).—Accommodation for married couples at Ladywell Lodge for housing committee, LCC. Walter Gladding & Co. Ltd., £42,109; T. R. Roberts (Builders) Ltd., £39,552; (A) W. J. Eaglen Ltd., £39,199. Architect's comparable estimate is £41,233.

LONDON (Poplar).—Erection of 20 maisonettes etc., at Devons estate for housing committee, LCC. Wm. J. Jerram Ltd., £73,856; A. E. Symes Ltd., £73,476; Hammond & Miles Ltd., £73,126; H. C. Horswill Ltd., £72.885; Carlton Contractors Ltd., £71.775; Poolman (Builders) Ltd., £71,437; (A) Stewart & Partners Ltd., £71.041. Architect's comparable estimate is £68,214.

LONDON (Wandsworth).—Expansion of Furzedown Training College for LCC's ed. com. E. J. Lacy & Co. Ltd., £49,950; Walter Llewellyn & Sons Ltd., £47,466; Croudace Ltd., £46,926; Rowley Bros. Ltd., £46,468; Thomas McInerney & Sons Ltd., £45,750; (A) Kirk & Kirk Ltd., £43,879. Comparable estimate of the appointed architects, Messrs. Leonard Manasseh & Partners, is £41,360.

LONDON (City).—Lengthening of platforms at Blackfriars Station (District Line) for London Transport Executive. Chief E is C. E. Dunton. (A) Mitchell Bros. Sons & Co., £140,000.

(GD) LONDON (Air Ministry).—Contracts to the value of £4,000 or over for week ended November 24: *Building work:* Northwood, Middx.; Y. J. Lovell (Bucks.) Ltd., Gerrards Cross, Bucks. Greenock, Renfrew; Spiers Ltd., Glasgow, C3. *Artificers work:* Syreston (Notts.); W. J. Roberts (Bottesford) Ltd., Bottesford. Wittering (Northants); Bettles Building Co. Ltd., Peterborough. Stradishall (Suffolk) etc.; Kerridge (Cambridge) Ltd., Cambridge. *Installation of complete hydraulic system:* Isleworth, Middx.; H.M.L. (Engineering) Ltd., Isleworth, Middx.

(GD) LONDON (British Railways).—Recent contracts placed by North-Eastern Region: Earthworks in connection with the new marshalling yard at Healey Mills; McLaughlan (Knottingley) Ltd., Knottingley. Overhaul of the coaling plant at dairycoates motive power depot, Hull; C. Campling (Goole) Ltd., Goole. Alterations to warehouse at Railway-st. goods depot, Hull; Quibell & Son Ltd., Hull. Erection of a new signal box at Gateshead; Berwick Building Co., Berwick. Construction of signal gantries for use by the Chief Civil Engineer, York; Firth Blakeley & Sons, Church Fenton. Supply of a 30-ton down stroking hydraulic press for use in the maintenance of hydraulic buffers at Shildon wagon works; Henry Berry & Co., Leeds. Raising the superstructure and alterations to the approaches and wing walls of Bridge No. 178 at Darfield on the Leeds-Derby line; Ruddock & Meighan Ltd., Barnsley. Construction and erection of yard lighting at the new Tyne marshalling yard; K. S. Construction Co., Leeds. 30-cwt. overhead travelling crane for Gateshead freight terminal; John Boyd & Co. (Engineers) Ltd., Annan.

(GD) LONDON (British Railways).—Contracts placed by Southern Region: Improved staff accommodation at Railway depot at Waterloo & City; R. Mansell Ltd., Croydon, Surrey. Accommodation for accounting machines at Dorking North; G. E. Wallis & Sons Ltd., London, WC2. Installation of electrical services in carriage servicing shed at Slade Green; Bective Electrical Co. Ltd., London, WC2. Station renovations at Templecombe; Geo. Jones & Son (Contractors) Ltd., London, W6. Repairs to Rockley Viaduct at Hamworthy Junction; Campbell & McGill Ltd., Winchester, Hants. New footbridge at Grove Park station; W. & C. French Ltd., Buckhurst Hill, Essex. Station renovations at Kearsney; P. & M. Contractors Ltd., Lon-

don, SW4. Renovation of carriage inspection sheds at Durnsford-rd., Wimbledon; Alfred Bagnall & Sons Ltd., Teddington, Middlesex.

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Construction of new roadway at Newhaven Harbour; S. M. Tidy (Public Works) Ltd., Brighton, Sussex. Repairs to roofs at Woking Station; Durable Asphalte Co. Ltd., London, N1. Station renovations at Rochester; John E. Wiltshier & Co. Ltd., Canterbury, Kent. Cleaning and painting of bridges at Ashford district; Wm. Latimer & Co. Ltd., Newcastle-on-Tyne. Repairs to Poole River Bridge at Catford; Aubrey Watson Ltd., Henley-on-Thames, Oxon. Removal of Burney-st. bridge at Greenwich; R. Robinson & Co. (Contractors) Ltd., London, SW1.

(GD) LONDON (War Dept.).—Contracts placed for week ended November 10: *Co. Antrim:* Building at Lisburn; Fraser & Co. Ltd., Belfast. *Breconshire:* Painting and decorating at Sennybridge; Ian Williams & Co. Ltd.; Cardiff. *Derbyshire:* Miscellaneous at Derby; Harris Bros. (Marehay) Ltd., Ripley, Derby. *London:* Miscellaneous; C.A.S. (Contractors) Ltd., London. Building at Woolwich; Holliday, Hall & Stinson Ltd., London, SW12. *Midlothian:* Building at Edinburgh; James Miller & Partners Ltd., Edinburgh. *Perthshire:* Building at Dunblane; G. N. Haden & Sons Ltd., Glasgow, C2. *Staffordshire:* Miscellaneous at Marchington; O'Dair Bros. Ltd., Uttoxeter. *Yorkshire:* Roadwork at Catterick Camp; F. Shepherd & Son Ltd., Richmond, Yorks.

NEWBURY.—Block of flats at Craven-rd. for TC. (A) F. D. Carter & Partners Ltd., Up Green, Inkpen.

NEWCASTLE-ON-TYNE.—Erection of a new school of agriculture at College-ave. for the Council of King's College. Architects: W. B. Edwards and Partners, Cathedral Buildings, Dean-st., Newcastle. (A) Stanley Miller Ltd., North-st., Newcastle-on-Tyne.

NEWCASTLE-UNDER-LYME. — Erection of 86 dwellings and 18 garages at Thistleberry estate for BC. (A) Madew & Wardle Ltd., £163,121.

PURLEY.—Erection of sub-station for CEGB. (A) M. J. Gleeson Ltd., London-rd., Cheam, £33,000 (approx.).

READING.—Extensions to offices at Basingstoke-rd. for S.P.D. Ltd. (A) Y. J. Lovell Ltd., Gerrards Cross, Bucks.

ROWLEY REGIS.—Erection of 124 flats, 63 garages and 3 shops at Bury Hill for BC. (A) Selleck, Nicholls, Williams Ltd.

SHEFFIELD.—Second phase of Park Hill flats scheme for CBC. (A) Direct labour, £3¼m. (approx.). Negotiated tender.

SLOUGH.—New general hospital at Wexham Park for North-West Met. Regional Hospital Bd. (A) Humphreys Ltd., 199 Knightsbridge, London, SW1, £2,631,738.

SOUTH SHIELDS.—Erection of large factory at Simonside industrial estate for Industrial Estates Management Corporation, Team Valley, Gateshead. Architects: Jack Cotton, Ballard and Blow, 48 Pilgrim-st., Newcastle-on-Tyne. (A) Cummings, Matamba Terrace, Sunderland. Factory additions at Simonside industrial estate for Elsey and Gibbons Ltd., engineers, etc. Architects: Page, Son and Hill, 75 King-st., South Shields. (A) Milton Swales Ltd., Imeary-st., South Shields.

STOCKTON-ON-TEES. — Erection of offices, warehouse, etc., at Portrack-la. for J. W. Towers and Co. Ltd., Victoria House, Widnes. (A) C. Tennet (Contractors) Ltd., Church-rd., Stockton-on-Tees.

SURBITON.—Erection of 32 houses at the Middleton estate for BC. (A) Carlton Contractors Ltd., Epsom, £64,768.

SUTTON (Surrey).—Occupational therapy unit at Belmont Hospital for SW Met. Regional Hospital Bd. (A) Truett and Steel Ltd., Thornton Heath.

WALLSEND.—Erection of factory block at Neptune-rd. for the Thermal Syndicate Co. Ltd. Architects: L. J. Couves and Partners, Grainger-chbrs., Hood-st., Newcastle-on-Tyne. (A) Kendall Cross and Co., Mill House, West End, Ponteland, Northumberland.

WALSALL.—New sub-station at Bustleholm for CEGB. (A) Tarmac Engineering Ltd.

WINCHESTER.—Erection of a 90-bedroom hotel at Cathedral-close for Trust Houses Ltd. Architects: Fielden & Mawson, Norwich. QS: Philip Pank & Ptnrs., Norwich. (A) James Drewitt & Son Ltd., Ringwood-rd., West Howe, Bournemouth, £350,000 est.

WINDSOR.—Aged persons' flatlets and bungalows at The Avenue, Ascot for RDC. (A) W. Varney Ltd., Clewer Hill-rd., Windsor, £49,927.

WITHERNSEA.—Erection of 122 'Homeville' dwellings at Clovelly for UDC. (A) T. R. Barnett Ltd., Hull.

WORKSOP.—Alterations to Victoria Hospital for Sheffield Regional Hospital Bd. (A) Loverton & Brown.

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